

Equations of the circle based on graph

Use the center and radius of the circle to make an equation for the circle

1) Center: $(-2, 11)$
 Radius: 7

2) Center: $(10, -15)$
 Radius: 3

3) Center: $(1, -1)$
 Radius: $\sqrt{91}$

4) Center: $(12, 6)$
 Radius: 1

5) Center: $(-11, -8)$
 Radius: 6

6) Center: $(-9, 13)$
 Radius: $2\sqrt{5}$

7) Center: $(2, -13)$
 Radius: 3

8) Center: $(14, -6)$
 Radius: 4

9) Center: $(-5, -11)$
 Radius: 3

10) Center: $(5, 9)$
 Radius: 6

11) Center: $(16, 15)$
 Radius: $\sqrt{7}$

12) Center: $(-7, 1)$
 Radius: 2

13) Center: $(-2, 10)$
 Radius: 7

14) Center: $(-15, 4)$
 Radius: 3

15) Center: $(9, -15)$
Radius: 2

16) Center: $(7, -3)$
Radius: $3\sqrt{6}$

17) Center: $(-1, -1)$
Radius: $\sqrt{139}$

18) Center: $(11, 5)$
Radius: 5

19) Center: $(-12, -8)$
Radius: 3

20) Center: $(-11, 13)$
Radius: 6

21) Center: $(2, -13)$
Radius: 5

22) Center: $(13, -6)$
Radius: 3

23) Center: $(-8, 1)$
Radius: $\sqrt{31}$

24) Center: $(4, 8)$
Radius: 6

25) Center: $(-6, -11)$
Radius: 6

26) Center: $(15, 15)$
Radius: $\sqrt{5}$

27) Center: $(-1, \frac{19}{2})$
Radius: 7

28) Center: $(-14, -9)$
Radius: 3

29) Center: $(-2, -1)$
Radius: 7

30) Center: $\left(2, -\frac{19}{2}\right)$
Radius: 3

31) Center: $\left(-\frac{7}{2}, \sqrt{37}\right)$
Radius: 4

32) Center: $(10, 6)$
Radius: 2

33) Center: $(-11, 12)$
Radius: 7

34) Center: $(1, -14)$
Radius: 2

35) Center: $(12, -6)$
Radius: 4

36) Center: $(-9, 1)$
Radius: $4\sqrt{2}$

37) Center: $\left(\frac{17}{2}, 4\right)$
Radius: $\sqrt{15}$

38) Center: $(15, 15)$
Radius: 1

39) Center: $(3, 7)$
Radius: $\sqrt{94}$

40) Center: $(-7, -11)$
Radius: $\sqrt{35}$

41) Center: $(5, -5)$
Radius: 3

42) Center: $(-5, 10)$
Radius: 5

43) Center: $(16, 3)$
Radius: 1

44) Center: $(7, -16)$
Radius: 3

45) Center: $(-2, -2)$
Radius: 9

46) Center: $(9, 5)$
Radius: 8

47) Center: $(-14, -9)$
Radius: $\sqrt{19}$

48) Center: $(-12, 13)$
Radius: 1

49) Center: $(-1, -14)$
Radius: 5

50) Center: $(12, -7)$
Radius: $\sqrt{3}$

51) Center: $(-10, 1)$
Radius: 8

52) Center: $(2, 8)$
Radius: $\sqrt{6}$

53) Center: $(-8, -12)$
Radius: 5

54) Center: $(13, 14)$
Radius: 3

55) Center: $(3, -4)$
Radius: 8

56) Center: $(16, 2)$
Radius: 1

57) Center: $(-10, \sqrt{77})$
Radius: 5

58) Center: $(-7, 12)$
Radius: 6

59) Center: $(-13, 12)$
Radius: 4

60) Center: $(-1, -14)$
Radius: 2

61) Center: $\left(16, -\frac{29}{2}\right)$
Radius: 3

62) Center: $(-11, 0)$
Radius: 4

63) Center: $(10, -7)$
Radius: $3\sqrt{2}$

64) Center: $(0, 7)$
Radius: 4

65) Center: $(12, 15)$
Radius: 3

66) Center: $\left(\frac{21}{2}, -9\right)$
Radius: $\sqrt{55}$

67) Center: $(-8, -12)$
Radius: 3

68) Center: $\left(\sqrt{86}, \frac{9}{2}\right)$
Radius: 7

69) Center: $(3, -5)$
Radius: $\sqrt{58}$

70) Center: $(15, 2)$
Radius: 2

71) Center: $(-7, 9)$
Radius: $\sqrt{79}$

72) Center: $(5, 16)$
Radius: $\sqrt{7}$

73) Center: $(-16, -10)$
Radius: 2

74) Center: $(-4, -2)$
Radius: 8

75) Center: $(7, 4)$
Radius: 7

76) Center: $(-14, 11)$
Radius: 2

77) Center: $(-3, -14)$
Radius: 4

78) Center: $(9, -7)$
Radius: 5

79) Center: $(-11, -1)$
Radius: 8

80) Center: $(12, 14)$
Radius: 3

81) Center: $(-10, -12)$
Radius: 7

82) Center: $(2, -5)$
Radius: 8

83) Center: $(13, 2)$
Radius: 3

84) Center: $(-7, 9)$
Radius: 6

85) Center: $(4, 16)$
Radius: $\sqrt{2}$

86) Center: $(16, -10)$
Radius: 2

87) Center: $(7, 7)$
Radius: $\sqrt{71}$

88) Center: $(9, -8)$
Radius: 8

89) Center: $(-13, 0)$
Radius: 5

90) Center: $(-1, 6)$
Radius: 7

91) Center: $(-5, \sqrt{246})$
Radius: 3

92) Center: $(10, 13)$
Radius: 3

93) Center: $(-11, -12)$
Radius: $\sqrt{5}$

94) Center: $(13, 1)$
Radius: $\sqrt{21}$

95) Center: $(1, -5)$
Radius: 4

96) Center: $(3, 16)$
Radius: 2

97) Center: $(-9, 9)$
Radius: 8

98) Center: $(15, -10)$
Radius: 2

99) Center: $(-\frac{5}{2}, 13)$
Radius: 3

100) Center: $(\frac{9}{2}, -6)$
Radius: 8

Use the center and area to make an equation for the circle

101) Center: $(6, 4)$
Area: 34π

102) Center: $(-7, -3)$
Area: π

103) Center: $(-16, 11)$
Area: 4π

104) Center: $(-4, -16)$
Area: π

105) Center: $(7, -8)$
Area: 36π

106) Center: $(-14, -1)$
Area: 9π

107) Center: $(-2, 6)$
Area: 100π

108) Center: $(10, 13)$
Area: 9π

109) Center: $(0, -6)$
Area: 133π

110) Center: $(-12, -13)$
Area: 4π

111) Center: $(12, 2)$
Area: 9π

112) Center: $(3, 15)$
Area: 9π

113) Center: $(-10, 8)$
Area: 61π

114) Center: $(14, -10)$
Area: 25π

115) Center: $(-7, -3)$
Area: 4π

116) Center: $(4, 3)$
Area: 25π

117) Center: $(16, 11)$
Area: 3π

118) Center: $(12, 12)$
Area: 16π

119) Center: $(9, 13)$
Area: 25π

120) Center: $(-13, -14)$
Area: 25π

121) Center: $(-1, -6)$
Area: 114π

122) Center: $(11, 1)$
Area: π

123) Center: $(-10, 8)$
Area: 25π

124) Center: $(1, 15)$
Area: 9π

125) Center: $(13, -11)$
Area: 16π

126) Center: $(-9, -4)$
Area: 47π

127) Center: $\left(-14, -\frac{15}{2}\right)$
Area: 4π

128) Center: $\left(-\frac{23}{2}, 6\right)$
Area: 16π

129) Center: $(3, 4)$
Area: 25π

130) Center: $(15, 10)$
Area: 9π

131) Center: $(-6, -16)$
Area: π

132) Center: $(6, -8)$
Area: 16π

133) Center: $(-16, -2)$
Area: 9π

134) Center: $(-4, 5)$
Area: 9π

135) Center: $(-13, -13)$
Area: 25π

136) Center: $(7, 12)$
Area: 6π

137) Center: $(-2, -7)$
Area: 144π

138) Center: $(0, 15)$
Area: 16π

139) Center: $(10, 0)$
Area: 16π

140) Center: $(-12, 8)$
Area: 4π

141) Center: $(12, -12)$
Area: 16π

142) Center: $(-9, -4)$
Area: 79π

143) Center: $(3, 3)$
Area: 186π

144) Center: $(14, 10)$
Area: 25π

145) Center: $(-7, -16)$
Area: 2π

146) Center: $(4, -9)$
Area: 81π

147) Center: $\left(-\frac{17}{2}, \frac{31}{2}\right)$
Area: 4π

148) Center: $(2\sqrt{15}, 1)$
Area: 9π

149) Center: $\left(\frac{17}{2}, -5\right)$
Area: 25π

150) Center: $(8, 0)$
Area: 4π

151) Center: $(-12, 7)$
Area: 9π

152) Center: $(0, 14)$
Area: 25π

153) Center: $(11, -11)$
Area: 56π

154) Center: $\left(\frac{11}{2}, \frac{29}{2}\right)$
Area: 10π

155) Center: $(-10, -5)$
Area: 9π

156) Center: $(1, 2)$
Area: 223π

157) Center: $(13, 10)$
Area: 9π

158) Center: $(4, -10)$
Area: 36π

159) Center: $(-8, -16)$
Area: 4π

160) Center: $(15, -2)$
Area: 16π

161) Center: $(-6, 5)$
Area: 41π

162) Center: $(5, 12)$
Area: 25π

163) Center: $(-16, -14)$
Area: π

164) Center: $(8, 0)$
Area: 25π

165) Center: $(-3, -7)$
Area: 49π

166) Center: $(-13, 7)$
Area: 3π

167) Center: $(-2, 14)$
Area: 9π

168) Center: $(-12, -5)$
Area: 49π

169) Center: $(10, -12)$
Area: 41π

170) Center: $(1, 2)$
Area: 25π

171) Center: $(12, 9)$
Area: π

172) Center: $(-9, 16)$
Area: 9π

173) Center: $(2, -9)$
Area: 65π

174) Center: $(14, -3)$
Area: 4π

175) Center: $(-6, 4)$
Area: 36π

176) Center: $(5, 12)$
Area: 31π

177) Center: $\left(-\frac{31}{2}, -4\right)$
Area: 9π

178) Center: $\left(\frac{21}{2}, -\frac{27}{2}\right)$
Area: 16π

179) Center: $(\sqrt{229}, -10)$
Area: 9π

180) Center: $(-2, 13)$
Area: 26π

181) Center: $(-\frac{13}{2}, \sqrt{73})$
Area: 25π

182) Center: $(9, -12)$
Area: 16π

183) Center: $(-12, -5)$
Area: 33π

184) Center: $(-1, 2)$
Area: 225π

185) Center: $(11, 8)$
Area: 25π

186) Center: $(-10, 16)$
Area: 9π

187) Center: $(2, -10)$
Area: 4π

188) Center: $(14, -3)$
Area: 19π

189) Center: $(-8, 4)$
Area: 16π

190) Center: $(4, 11)$
Area: 9π

191) Center: $(15, -15)$
Area: 4π

192) Center: $(-6, -7)$
Area: 64π

193) Center: $(6, -1)$
Area: 49π

194) Center: $(-15, 6)$
Area: π

195) Center: $(-4, 14)$
Area: 10π

196) Center: $(8, -13)$
Area: 9π

197) Center: $(-13, -6)$
Area: 16π

198) Center: $(-2, 2)$
Area: 100π

199) Center: $(\sqrt{222}, -\frac{25}{2})$
Area: 4π

200) Center: $(-\frac{25}{2}, \frac{19}{2})$
Area: 9π

Use the center and circumference to make an equation for the circle

201) Center: $(11, 9)$
Circumference: 16π

202) Center: $(1, -10)$
Circumference: 6π

203) Center: $(12, -3)$
Circumference: $2\pi\sqrt{39}$

204) Center: $(-11, 15)$
Circumference: $2\pi\sqrt{15}$

205) Center: $(-9, 4)$
Circumference: 12π

206) Center: $(2, 10)$
Circumference: 6π

207) Center: $(15, -15)$
Circumference: 8π

208) Center: $(-7, -8)$
Circumference: 2π

209) Center: $(2\sqrt{47}, 14)$
Circumference: 10π

210) Center: $(4, \sqrt{77})$
Circumference: 20π

211) Center: $(-2, 1)$
Circumference: 24π

212) Center: $(9, 8)$
Circumference: 8π

213) Center: $(3\sqrt{3}, -5)$
Circumference: 6π

214) Center: $(-12, 16)$
Circumference: 2π

215) Center: $(-1, -11)$
Circumference: $2\pi\sqrt{62}$

216) Center: $(12, -4)$
Circumference: 12π

217) Center: $(-10, 4)$
Circumference: $2\pi\sqrt{58}$

218) Center: $(14, -16)$
Circumference: 4π

219) Center: $(2, 11)$
Circumference: 4π

220) Center: $(4, -1)$
Circumference: 22π

221) Center: $(-8, -9)$
Circumference: 10π

222) Center: $(16, 6)$
Circumference: $4\pi\sqrt{2}$

223) Center: $(-5, 12)$
Circumference: 10π

224) Center: $(6, -13)$
Circumference: 4π

225) Center: $\left(7, -\frac{3}{2}\right)$
Circumference: 22π

226) Center: $(-15, -6)$
Circumference: 4π

227) Center: $(-4, 1)$
Circumference: 18π

228) Center: $(-13, 15)$
Circumference: 4π

229) Center: $(8, 8)$
Circumference: $4\pi\sqrt{6}$

230) Center: $(-1, -11)$
Circumference: $6\pi\sqrt{2}$

231) Center: $(-11, 3)$
Circumference: 12π

232) Center: $(11, -4)$
Circumference: 10π

233) Center: $(1, 10)$
Circumference: 2π

234) Center: $\left(\frac{3}{2}, \frac{17}{2}\right)$
Circumference: 18π

235) Center: $(-8, -9)$
Circumference: $2\pi\sqrt{62}$

236) Center: $(3, -2)$
Circumference: 8π

237) Center: $(12, -15)$
Circumference: 4π

238) Center: $(15, 5)$
Circumference: 4π

239) Center: $(13, -10)$
Circumference: 10π

240) Center: $(-7, 13)$
Circumference: 6π

241) Center: $(-5, 11)$
Circumference: $4\pi\sqrt{11}$

242) Center: $(-2, -11)$
Circumference: 4π

243) Center: $(9, -4)$
Circumference: 10π

244) Center: $(-11, 2)$
Circumference: 8π

245) Center: $(0, 10)$
Circumference: 12π

246) Center: $(\sqrt{230}, 2\sqrt{55})$
Circumference: 4π

247) Center: $(12, -16)$
Circumference: 6π

248) Center: $(-10, -9)$
Circumference: 12π

249) Center: $(2, -2)$
Circumference: $2\pi\sqrt{247}$

250) Center: $(-7, 12)$
Circumference: 4π

251) Center: $(13, 5)$
Circumference: 12π

252) Center: $(5, -13)$
Circumference: 6π

253) Center: $(-5, 0)$
Circumference: $2\pi\sqrt{6}$

254) Center: $(16, -7)$
Circumference: 4π

255) Center: $(6, 7)$
Circumference: 14π

256) Center: $(-3, -12)$
Circumference: 14π

257) Center: $(-15, 15)$
Circumference: $2\pi\sqrt{15}$

258) Center: $(-13, 3)$
Circumference: 4π

259) Center: $(-1, 9)$
Circumference: 14π

260) Center: $(9, -5)$
Circumference: 16π

261) Center: $(10, 16)$
Circumference: $2\pi\sqrt{7}$

262) Center: $(-11, -9)$
Circumference: 14π

263) Center: $(2, -2)$
Circumference: $2\pi\sqrt{285}$

264) Center: $(13, 4)$
Circumference: 6π

265) Center: $(-8, 12)$
Circumference: 10π

266) Center: $(3, -14)$
Circumference: 8π

267) Center: $(15, -7)$
Circumference: 4π

268) Center: $(-7, 0)$
Circumference: $2\pi\sqrt{94}$

269) Center: $\left(-\frac{5}{2}, 2\right)$
Circumference: 30π

270) Center: $\left(0, \frac{23}{2}\right)$
Circumference: 8π

271) Center: $(-14, 2)$
Circumference: $2\pi\sqrt{15}$

272) Center: $(-2, 9)$
Circumference: 8π

273) Center: $(\sqrt{238}, \sqrt{6})$
Circumference: 2π

274) Center: $(10, -16)$
Circumference: 2π

275) Center: $(-11, -10)$
Circumference: 6π

276) Center: $(0, -3)$
Circumference: 20π

277) Center: $(\sqrt{161}, -\frac{5}{2})$
Circumference: $4\pi\sqrt{5}$

278) Center: $(12, 5)$
Circumference: 4π

279) Center: $(-10, 11)$
Circumference: 10π

280) Center: $(3, -15)$
Circumference: $2\pi\sqrt{13}$

281) Center: $(14, -7)$
Circumference: 2π

282) Center: $(-7, 0)$
Circumference: 20π

283) Center: $(4, 6)$
Circumference: $2\pi\sqrt{71}$

284) Center: $(16, 14)$
Circumference: 6π

285) Center: $(-5, -12)$
Circumference: 8π

286) Center: $(7, -5)$
Circumference: 12π

287) Center: $(-14, 1)$
Circumference: 2π

288) Center: $(-3, 9)$
Circumference: $2\pi\sqrt{93}$

289) Center: $(9, 16)$
Circumference: 4π

290) Center: $(-1, -3)$
Circumference: 2π

291) Center: $(-13, -10)$
Circumference: $2\pi\sqrt{15}$

292) Center: $(11, 4)$
Circumference: 12π

293) Center: $(1, -15)$
Circumference: 2π

294) Center: $(-10, 11)$
Circumference: 12π

295) Center: $(13, -8)$
Circumference: $6\pi\sqrt{3}$

296) Center: $(-8, -1)$
Circumference: 2π

297) Center: $(3, 7)$
Circumference: 6π

298) Center: $(16, 13)$
Circumference: 6π

299) Center: $(\sqrt{197}, \sqrt{73})$
Circumference: 8π

300) Center: $(\frac{5}{2}, \sqrt{159})$
Circumference: 10π

Use the center and point on circle to make an equation

301) Center: $(2, -5)$
Point on Circle: $(13, -5)$

302) Center: $(5, 1)$
Point on Circle: $(9, 13)$

303) Center: $(-2, 16)$
Point on Circle: $(0, 14)$

304) Center: $(0, 15)$
Point on Circle: $(1, 15)$

305) Center: $(4, -13)$
Point on Circle: $(10, -13)$

306) Center: $(3, 7)$
Point on Circle: $(14, 4)$

307) Center: $(7, 1)$
Point on Circle: $(5, 11)$

308) Center: $(6, 13)$
Point on Circle: $(10, 10)$

309) Center: $(5, -2)$
Point on Circle: $(1, 7)$

310) Center: $(9, -8)$
Point on Circle: $(18, -10)$

311) Center: $(8, 13)$
Point on Circle: $(10, 15)$

312) Center: $(7, -2)$
Point on Circle: $(8, 4)$

313) Center: $(14, -17)$
Point on Circle: $(13, -16)$

314) Center: $(12, -16)$
Point on Circle: $(11, -16)$

315) Center: $(10, 4)$
Point on Circle: $(11, 0)$

316) Center: $(13, 4)$
Point on Circle: $(16, -1)$

317) Center: $(16, 10)$
Point on Circle: $(16, 7)$

318) Center: $(9, -10)$
Point on Circle: $(4, -8)$

319) Center: $(-16, 16)$
Point on Circle: $(-13, 16)$

320) Center: $(-17, 1)$
Point on Circle: $(-17, 3)$

321) Center: $(15, -5)$
Point on Circle: $(12, -3)$

322) Center: $(-13, 16)$
Point on Circle: $(-13, 18)$

323) Center: $(17, -13)$
Point on Circle: $(15, -13)$

324) Center: $(-15, 1)$
Point on Circle: $(-17, 4)$

325) Center: $(-11, 7)$
Point on Circle: $(-16, 13)$

326) Center: $(-16, -14)$
Point on Circle: $(-16, -12)$

327) Center: $(-12, -8)$
Point on Circle: $(-14, -4)$

328) Center: $(-14, 13)$
Point on Circle: $(-10, 10)$

329) Center: $(-9, 7)$
Point on Circle: $(-16, 10)$

330) Center: $(-10, -8)$
Point on Circle: $(-4, -8)$

331) Center: $(-8, -17)$
Point on Circle: $(-7, -18)$

332) Center: $(-7, -2)$
Point on Circle: $(0, -1)$

333) Center: $(-11, 4)$
Point on Circle: $(-12, -1)$

334) Center: $(-4, -10)$
Point on Circle: $(3, -14)$

335) Center: $(-2, -11)$
Point on Circle: $(-5, -6)$

336) Center: $(-6, 10)$
Point on Circle: $(-4, 15)$

337) Center: $(-9, 4)$
Point on Circle: $(-12, 9)$

338) Center: $(-7, -5)$
Point on Circle: $(3, -10)$

339) Center: $(0, 16)$
Point on Circle: $(1, 17)$

340) Center: $(-3, 9)$
Point on Circle: $(1, 11)$

341) Center: $(-1, 1)$
Point on Circle: $(-2, 13)$

342) Center: $(2, 7)$
Point on Circle: $(7, 8)$

343) Center: $(-2, -14)$
Point on Circle: $(-2, -15)$

344) Center: $(-5, -5)$
Point on Circle: $(4, -11)$

345) Center: $(1, -8)$
Point on Circle: $(10, -3)$

346) Center: $(0, 13)$
Point on Circle: $(5, 14)$

347) Center: $(3, -8)$
Point on Circle: $(-4, -7)$

348) Center: $(4, 7)$
Point on Circle: $(13, 14)$

349) Center: $(2, 12)$
Point on Circle: $(0, 11)$

350) Center: $(5, -16)$
Point on Circle: $(3, -17)$

351) Center: $(7, -2)$
Point on Circle: $(-5, -2)$

352) Center: $(9, -2)$
Point on Circle: $(12, -3)$

353) Center: $(4, 4)$
Point on Circle: $(8, 8)$

354) Center: $(8, 10)$
Point on Circle: $(2, 15)$

355) Center: $(11, -11)$
Point on Circle: $(15, -14)$

356) Center: $(6, -5)$
Point on Circle: $(-5, -2)$

357) Center: $(10, 10)$
Point on Circle: $(8, 13)$

358) Center: $(9, -5)$
Point on Circle: $(16, -10)$

359) Center: $(12, 1)$
Point on Circle: $(17, 0)$

360) Center: $(13, 16)$
Point on Circle: $(15, 16)$

361) Center: $(15, 15)$
Point on Circle: $(12, 16)$

362) Center: $(11, -14)$
Point on Circle: $(7, -14)$

363) Center: $(14, 1)$
Point on Circle: $(16, 2)$

364) Center: $(-17, 7)$
Point on Circle: $(-18, 7)$

365) Center: $(13, 13)$
Point on Circle: $(11, 12)$

366) Center: $(-15, -2)$
Point on Circle: $(-12, 0)$

367) Center: $(17, -8)$
Point on Circle: $(17, -7)$

368) Center: $(-16, -16)$
Point on Circle: $(-16, -14)$

369) Center: $(15, 12)$
Point on Circle: $(17, 11)$

370) Center: $(-13, -2)$
Point on Circle: $(-7, -2)$

371) Center: $(-14, -17)$
Point on Circle: $(-16, -17)$

372) Center: $(-11, -11)$
Point on Circle: $(-9, -12)$

373) Center: $(-17, 4)$
Point on Circle: $(-19, 4)$

374) Center: $(-15, 3)$
Point on Circle: $(-17, 0)$

375) Center: $(-12, 10)$
Point on Circle: $(-15, 6)$

376) Center: $(-8, 16)$
Point on Circle: $(-11, 16)$

377) Center: $(-10, 1)$
Point on Circle: $(-15, -5)$

378) Center: $(-13, -5)$
Point on Circle: $(-19, -5)$

379) Center: $(-11, -14)$
Point on Circle: $(-10, -15)$

380) Center: $(-6, 15)$
Point on Circle: $(-8, 14)$

381) Center: $(-7, 1)$
Point on Circle: $(0, -8)$

382) Center: $(-4, 7)$
Point on Circle: $(-9, 10)$

383) Center: $(-1, -14)$
Point on Circle: $(-1, -16)$

384) Center: $(-2, 6)$
Point on Circle: $(-15, 6)$

385) Center: $(-5, -8)$
Point on Circle: $(1, -17)$

386) Center: $(0, -2)$
Point on Circle: $(5, -9)$

387) Center: $(-3, -16)$
Point on Circle: $(-1, -15)$

388) Center: $(2, 13)$
Point on Circle: $(3, 13)$

389) Center: $(4, 4)$
Point on Circle: $(-3, 11)$

390) Center: $(6, 4)$
Point on Circle: $(6, -4)$

391) Center: $(-1, -17)$
Point on Circle: $(-3, -17)$

392) Center: $(3, -11)$
Point on Circle: $(4, -15)$

393) Center: $(2, 10)$
Point on Circle: $(4, 9)$

394) Center: $(8, -5)$
Point on Circle: $(13, -13)$

395) Center: $(5, -11)$
Point on Circle: $(13, -11)$

396) Center: $(4, 9)$
Point on Circle: $(2, 18)$

397) Center: $(11, -13)$
Point on Circle: $(9, -17)$

398) Center: $(6, 1)$
Point on Circle: $(19, 1)$

399) Center: $(7, 15)$
Point on Circle: $(6, 18)$

400) Center: $(9, 7)$
Point on Circle: $(15, 8)$

Use the center and tangent to make an equation for the circle

401) Center: $(8, -8)$
Tangent to $y = -15$

402) Center: $(12, 16)$
Tangent to $x = 10$

403) Center: $(5, 1)$
Tangent to $x = -5$

404) Center: $(15, 6)$
Tangent to $x = 11$

405) Center: $(-11, -12)$
Tangent to $y = -17$

406) Center: $(-8, 11)$
Tangent to $y = 18$

407) Center: $(-15, -3)$
Tangent to $y = -7$

408) Center: $(-2, -7)$
Tangent to $y = -17$

409) Center: $(-5, 3)$
Tangent to $x = -7$

410) Center: $(2, 16)$
Tangent to $y = 15$

411) Center: $(5, 8)$
Tangent to $x = -4$

412) Center: $(15, 13)$
Tangent to $y = 14$

413) Center: $(11, -11)$
Tangent to $x = 9$

414) Center: $(8, -2)$
Tangent to $x = 13$

415) Center: $(-15, 3)$
Tangent to $x = -13$

416) Center: $(-12, -6)$
Tangent to $x = -10$

417) Center: $(-5, 9)$
Tangent to $y = 16$

418) Center: $(-9, -15)$
Tangent to $x = -11$

419) Center: $(-2, -1)$
Tangent to $y = -13$

420) Center: $(4, 14)$
Tangent to $y = 13$

421) Center: $(1, -10)$
Tangent to $x = 6$

422) Center: $(8, 4)$
Tangent to $y = -1$

423) Center: $(11, -4)$
Tangent to $y = 2$

424) Center: $(14, -14)$
Tangent to $x = 11$

425) Center: $(-15, 10)$
Tangent to $y = 7$

426) Center: $(-12, 1)$
Tangent to $y = -5$

427) Center: $(-9, -9)$
Tangent to $x = -14$

428) Center: $(-6, 15)$
Tangent to $x = -10$

429) Center: $(-2, 6)$
Tangent to $x = -9$

430) Center: $(4, -13)$
Tangent to $x = 6$

431) Center: $(7, 11)$
Tangent to $x = 13$

432) Center: $(11, 2)$
Tangent to $y = 5$

433) Center: $(1, -3)$
Tangent to $y = 7$

434) Center: $(14, -8)$
Tangent to $y = -4$

435) Center: $(-16, -16)$
Tangent to $x = -13$

436) Center: $(-13, 7)$
Tangent to $x = -9$

437) Center: $(-9, -3)$
Tangent to $y = 4$

438) Center: $(-6, -11)$
Tangent to $y = -12$

439) Center: $(-3, 12)$
Tangent to $y = 14$

440) Center: $(1, 3)$
Tangent to $x = -1$

441) Center: $(4, -6)$
Tangent to $x = 10$

442) Center: $(7, -16)$
Tangent to $x = 8$

443) Center: $(10, 8)$
Tangent to $x = 5$

444) Center: $(14, -2)$
Tangent to $x = 12$

445) Center: $(-13, 13)$
Tangent to $y = 19$

446) Center: $(-16, -10)$
Tangent to $x = -19$

447) Center: $(-10, 3)$
Tangent to $y = 10$

448) Center: $(-6, -5)$
Tangent to $x = 5$

449) Center: $(3, 0)$
Tangent to $y = -10$

450) Center: $(0, 9)$
Tangent to $y = 15$

451) Center: $(-3, -15)$
Tangent to $y = -13$

452) Center: $(7, -10)$
Tangent to $x = 12$

453) Center: $(10, 14)$
Tangent to $x = 6$

454) Center: $(13, 5)$
Tangent to $y = 0$

455) Center: $(-13, -14)$
Tangent to $x = -14$

456) Center: $(-16, -4)$
Tangent to $y = -7$

457) Center: $(-10, 11)$
Tangent to $x = -12$

458) Center: $(0, 16)$
Tangent to $x = -1$

459) Center: $(-7, 1)$
Tangent to $y = -4$

460) Center: $(-3, -9)$
Tangent to $y = -16$

461) Center: $(3, 6)$
Tangent to $x = 9$

462) Center: $(6, -3)$
Tangent to $y = -11$

463) Center: $(10, -12)$
Tangent to $y = -11$

464) Center: $(13, 11)$
Tangent to $x = 17$

465) Center: $(-14, -7)$
Tangent to $y = -4$

466) Center: $(-10, -16)$
Tangent to $x = -8$

467) Center: $(16, 2)$
Tangent to $x = 19$

468) Center: $(-7, 7)$
Tangent to $x = -4$

469) Center: $(-4, -2)$
Tangent to $x = 9$

470) Center: $(3, 12)$
Tangent to $y = 7$

471) Center: $(0, -11)$
Tangent to $y = -4$

472) Center: $(6, 4)$
Tangent to $x = 0$

473) Center: $(9, -6)$
Tangent to $x = 2$

474) Center: $(16, 9)$
Tangent to $x = 17$

475) Center: $(13, -16)$
Tangent to $x = 12$

476) Center: $(-14, -1)$
Tangent to $x = -18$

477) Center: $(-11, -10)$
Tangent to $x = -17$

478) Center: $(-7, 14)$
Tangent to $y = 11$

479) Center: $(-4, 4)$
Tangent to $y = 11$

480) Center: $(-1, -5)$
Tangent to $y = -8$

481) Center: $(2, -14)$
Tangent to $x = 6$

482) Center: $(9, 0)$
Tangent to $y = 5$

483) Center: $(6, 10)$
Tangent to $y = 13$

484) Center: $(12, -9)$
Tangent to $x = 15$

485) Center: $(15, 15)$
Tangent to $x = 18$

486) Center: $(-14, 5)$
Tangent to $x = -16$

487) Center: $(-11, -3)$
Tangent to $y = 3$

488) Center: $(-8, -13)$
Tangent to $x = -13$

489) Center: $(-4, 11)$
Tangent to $x = -6$

490) Center: $(2, -8)$
Tangent to $y = -17$

491) Center: $(-1, 2)$
Tangent to $x = 6$

492) Center: $(5, 16)$
Tangent to $y = 14$

493) Center: $(9, 7)$
Tangent to $x = 1$

494) Center: $(-15, 12)$
Tangent to $y = 15$

495) Center: $(15, -12)$
Tangent to $y = -13$

496) Center: $(12, -2)$
Tangent to $y = -7$

497) Center: $(-11, 3)$
Tangent to $x = -4$

498) Center: $(-8, -7)$
Tangent to $y = 0$

499) Center: $(-5, -15)$
Tangent to $y = -11$

500) Center: $(-2, 8)$
Tangent to $x = 6$

Use the quadrant and tangent to make an equation for the circle

501) Center lies in the fourth quadrant
Tangent to $y = -1$, $x = 14$, and $x = -4$

502) Center lies in the second quadrant
Tangent to $x = -9$, $x = -11$, and the x -axis

503) Center lies in the fourth quadrant
Tangent to $y = 9$, $x = -9$, and $x = 13$

504) Center lies in the third quadrant
Tangent to $x = -6$, $y = 5$, and $y = -7$

505) Center lies in the third quadrant
Tangent to $x = -5$, $x = 3$, and the x -axis

506) Center lies in the first quadrant
Tangent to $y = 2$, $x = 14$, and $x = 10$

507) Center lies in the third quadrant
Tangent to $y = -12$, $x = 1$, and $y = -18$

508) Center lies in the third quadrant
Tangent to $y = 6$, $x = -1$, and $y = -8$

- 509) Center lies in the third quadrant
Tangent to $x = 2$, $x = -12$, and $y = -2$
- 510) Center lies in the second quadrant
Tangent to $y = 19$, $x = 3$, and $y = 9$
- 511) Center lies in the fourth quadrant
Tangent to $x = -1$, $y = -10$, and $y = 2$
- 512) Center lies in the second quadrant
Tangent to $y = 11$, $x = -2$, and $y = 15$
- 513) Center lies in the first quadrant
Tangent to $x = 6$, $y = 5$, and $x = 16$
- 514) Center lies in the first quadrant
Tangent to $x = -9$, $y = -6$, and $y = 14$
- 515) Center lies in the first quadrant
Tangent to $x = 13$, $x = 15$, and the x -axis
- 516) Center lies in the fourth quadrant
Tangent to $x = 1$, $y = -14$, and $y = -18$
- 517) Center lies in the first quadrant
Tangent to $y = 14$, $x = 2$, and $y = 10$
- 518) Center lies in the second quadrant
Tangent to $y = -3$, $x = -18$, and the y -axis
- 519) Center lies in the first quadrant
Tangent to $x = -4$, $y = 17$, and $y = 7$
- 520) Center lies in the third quadrant
Tangent to $y = -9$, $x = 1$, and $y = 3$
- 521) Center lies in the first quadrant
Tangent to $y = -1$, $y = 5$, and $x = 1$
- 522) Center lies in the third quadrant
Tangent to $y = -15$, the y -axis, and $y = -11$
- 523) Center lies in the first quadrant
Tangent to $y = 19$, the y -axis, and $y = 13$
- 524) Center lies in the third quadrant
Tangent to $x = -15$, $y = -1$, and $x = -17$

525) Center lies in the fourth quadrant
Tangent to $x = 13$, $y = 1$, and $x = -3$

526) Center lies in the first quadrant
Tangent to $x = 17$, $x = 1$, and $y = -3$

527) Center lies in the first quadrant
Tangent to $x = 7$, $x = -5$, and $y = -5$

528) Center lies in the second quadrant
Tangent to $y = 17$, $x = -4$, and $y = 7$

529) Center lies in the second quadrant
Tangent to $x = 3$, $x = -15$, and $y = -6$

530) Center lies in the third quadrant
Tangent to $x = 5$, $y = 2$, and $x = -11$

531) Center lies in the first quadrant
Tangent to $y = 19$, $y = -3$, and $x = -7$

532) Center lies in the fourth quadrant
Tangent to $y = -14$, $y = -16$, and the y -axis

533) Center lies in the fourth quadrant
Tangent to $x = 3$, $y = 3$, and $x = 11$

534) Center lies in the third quadrant
Tangent to $x = -8$, $x = -18$, and $y = 1$

535) Center lies on the y -axis
Tangent to $y = -19$ and $y = -13$

536) Center lies in the second quadrant
Tangent to $y = 10$, $y = 18$, and $x = 3$

537) Center lies in the third quadrant
Tangent to $y = -1$, $x = -17$, and $x = -9$

538) Center lies in the fourth quadrant
Tangent to $y = -6$, $x = 8$, and $x = -4$

539) Center lies on the x -axis
Tangent to $x = -9$ and $x = 3$

540) Center lies on the y -axis
Tangent to $x = -6$ and $y = -15$

541) Center lies in the second quadrant
Tangent to $x = 2$, $y = 2$, and $y = 18$

542) Center lies in the first quadrant
Tangent to $y = 12$, $y = 18$, and $x = 1$

543) Center lies in the first quadrant
Tangent to $y = -2$, $y = 12$, and the y -axis

544) Center lies in the fourth quadrant
Tangent to $y = 4$, $y = -12$, and $x = 2$

545) Center lies in the first quadrant
Tangent to $x = 13$, $x = -3$, and the x -axis

546) Center lies in the second quadrant
Tangent to $y = 17$, $y = 7$, and $x = -5$

547) Center lies in the second quadrant
Tangent to $y = -2$, $x = -16$, and $x = -10$

548) Center lies on the y -axis
Tangent to $y = -12$ and $y = 8$

549) Center lies in the third quadrant
Tangent to $y = 1$, $x = -1$, and $y = -17$

550) Center lies in the second quadrant
Tangent to the y -axis, $y = 3$, and $x = -6$

551) Center lies in the third quadrant
Tangent to $x = -2$, $x = -12$, and $y = 4$

552) Center lies in the fourth quadrant
Tangent to the y -axis, $y = -15$, and $y = -9$

553) Center lies in the first quadrant
Tangent to $x = 3$, $y = 6$, and $y = 16$

554) Center lies in the first quadrant
Tangent to $x = 14$, $x = 6$, and $y = -1$

555) Center lies in the second quadrant
Tangent to $x = -10$, $y = -1$, and $x = -18$

556) Center lies in the fourth quadrant
Tangent to $y = 2$, $x = 7$, and $x = 13$

557) Center lies in the second quadrant
Tangent to $x = -17$, $y = 4$, and $x = -9$

558) Center lies in the third quadrant
Tangent to $x = -16$, $y = 5$, and $x = -4$

559) Center lies in the third quadrant
Tangent to $y = -5$, $x = -1$, and $x = -13$

560) Center lies on the y -axis
Tangent to $x = -8$ and $y = -4$

561) Center lies in the second quadrant
Tangent to $y = 9$, $y = 17$, and the y -axis

562) Center lies in the fourth quadrant
Tangent to $x = 13$, $x = -7$, and $y = 4$

563) Center lies in the fourth quadrant
Tangent to $y = -18$, $x = 2$, and $y = -10$

564) Center lies in the first quadrant
Tangent to $y = 3$, $x = 3$, and $y = 15$

565) Center lies in the fourth quadrant
Tangent to $y = 2$, $x = 10$, and $x = 16$

566) Center lies in the first quadrant
Tangent to $x = -3$, $y = 10$, and $y = -2$

567) Center lies in the first quadrant
Tangent to $y = -1$, $x = 6$, and $x = 16$

568) Center lies in the third quadrant
Tangent to $y = 4$, $y = -14$, and $x = 2$

569) Center lies in the second quadrant
Tangent to $y = 14$, $x = -1$, and $y = -4$

570) Center lies in the third quadrant
Tangent to the y -axis, $y = -18$, and $y = -10$

571) Center lies on the x -axis
Tangent to $x = -9$ and $x = 15$

572) Center lies in the second quadrant
Tangent to $y = 19$, $y = 1$, and $x = 8$

573) Center lies in the fourth quadrant
Tangent to $x = -4$, $x = 16$, and $y = 2$

574) Center lies in the first quadrant
Tangent to $x = 5$, $y = 4$, and $x = 13$

575) Center lies in the first quadrant
Tangent to $x = 9$, $x = 15$, and $y = 2$

576) Center lies on the y -axis
Tangent to $x = 9$ and $y = -2$

577) Center lies in the fourth quadrant
Tangent to $x = 14$, $x = 18$, and $y = -1$

578) Center lies in the third quadrant
Tangent to the y -axis, $y = -4$, and $y = -12$

579) Center lies in the second quadrant
Tangent to $x = -15$, $x = -1$, and $y = -5$

580) Center lies in the second quadrant
Tangent to $y = 19$, $y = 13$, and $x = 2$

581) Center lies in the first quadrant
Tangent to $y = -2$, $x = -7$, and $x = 11$

582) Center lies in the fourth quadrant
Tangent to $y = -18$, $x = 3$, and $y = -6$

583) Center lies on the x -axis
Tangent to $x = 4$ and $y = 5$

584) Center lies in the fourth quadrant
Tangent to $y = -5$, $x = 3$, and $y = 1$

585) Center lies in the first quadrant
Tangent to $x = -3$, $y = 14$, and $y = -2$

586) Center lies in the second quadrant
Tangent to $y = 3$, $x = -12$, and $x = -6$

587) Center lies in the first quadrant
Tangent to $x = 16$, $x = 2$, and $y = -1$

588) Center lies in the second quadrant
Tangent to $x = -4$, $x = -12$, and $y = 4$

589) Center lies in the third quadrant
Tangent to $x = 2$, $y = 6$, and $x = -12$

590) Center lies in the third quadrant
Tangent to $y = -6$, $x = 3$, and $y = -14$

591) Center lies in the first quadrant
Tangent to $x = -4$, $y = 19$, and $y = 7$

592) Center lies in the first quadrant
Tangent to $x = 1$, $y = 8$, and the x -axis

593) Center lies in the fourth quadrant
Tangent to $x = 1$, $x = 15$, and $y = 2$

594) Center lies in the first quadrant
Tangent to $x = 17$, $y = -2$, and $x = 3$

595) Center lies on the x -axis
Tangent to $x = -12$ and $x = -18$

596) Center lies in the second quadrant
Tangent to $x = 4$, $y = 13$, and $y = -3$

597) Center lies on the y -axis
Tangent to $x = -5$ and the x -axis

598) Center lies on the y -axis
Tangent to $x = 1$ and $y = -15$

599) Center lies in the third quadrant
Tangent to $y = -11$, $x = 5$, and $y = 3$

600) Center lies in the second quadrant
Tangent to the x -axis, $y = 12$, and $x = 1$

Use the endpoints of diameter to make an equation for the circle

601) Ends of a diameter: $(17, 4)$ and $(3, 14)$

602) Ends of a diameter: $(-9, -1)$ and $(11, -9)$

603) Ends of a diameter: $(9, -1)$ and $(15, 1)$

604) Ends of a diameter: $(-13, -11)$ and $(1, 1)$

605) Ends of a diameter: $(9, -4)$ and $(11, 13)$

606) Ends of a diameter: $(3, -11)$ and $(-10, 0)$

607) Ends of a diameter: $(1, -18)$ and $(-1, 8)$

608) Ends of a diameter: $(6, -11)$ and $(1, -12)$

609) Ends of a diameter: $(-17, -12)$ and $(-17, -16)$

610) Ends of a diameter: $(-8, -3)$ and $(8, -3)$

611) Ends of a diameter: $(-5, -10)$ and $(-13, -16)$

612) Ends of a diameter: $(2, 18)$ and $(11, -5)$

613) Ends of a diameter: $(-4, -12)$ and $(-2, -10)$

614) Ends of a diameter: $(14, -4)$ and $(-12, 6)$

615) Ends of a diameter: $(-8, -7)$ and $(6, -13)$

616) Ends of a diameter: $(-15, 2)$ and $(1, 2)$

617) Ends of a diameter: $(2, 13)$ and $(-1, 3)$

618) Ends of a diameter: $(3, 8)$ and $(1, -6)$

619) Ends of a diameter: $(15, -1)$ and $(5, -11)$

620) Ends of a diameter: $(-16, 13)$ and $(-4, 11)$

621) Ends of a diameter: $(-9, -9)$ and $(-3, -9)$

622) Ends of a diameter: $(5, 14)$ and $(-3, -8)$

623) Ends of a diameter: $(-10, 0)$ and $(10, -6)$

624) Ends of a diameter: $(6, 0)$ and $(-6, 12)$

625) Ends of a diameter: $(14, -5)$ and $(-8, -9)$

626) Ends of a diameter: $(9, 7)$ and $(3, -3)$

627) Ends of a diameter: $(0, -8)$ and $(12, 0)$

628) Ends of a diameter: $(-18, 5)$ and $(4, -7)$

629) Ends of a diameter: $(-14, 0)$ and $(-16, -2)$

630) Ends of a diameter: $(1, 15)$ and $(-1, 17)$

631) Ends of a diameter: $(17, -11)$ and $(-7, -1)$

632) Ends of a diameter: $(-8, 0)$ and $(2, 18)$

633) Ends of a diameter: $(6, -14)$ and $(16, -2)$

634) Ends of a diameter: $(9, 9)$ and $(-3, -1)$

635) Ends of a diameter: $(11, 11)$ and $(15, 3)$

636) Ends of a diameter: $(9, 2)$ and $(8, -8)$

637) Ends of a diameter: $(6, -18)$ and $(9, -1)$

638) Ends of a diameter: $(15, 10)$ and $(-2, 5)$

639) Ends of a diameter: $(-17, -8)$ and $(11, 0)$

640) Ends of a diameter: $(12, 2)$ and $(18, 0)$

641) Ends of a diameter: $(2, 18)$ and $(-4, -18)$

642) Ends of a diameter: $(13, -6)$ and $(9, -4)$

643) Ends of a diameter: $(1, 17)$ and $(-4, 4)$

644) Ends of a diameter: $(3, 5)$ and $(9, -19)$

645) Ends of a diameter: $(1, -12)$ and $(-1, -18)$

646) Ends of a diameter: $(17, -2)$ and $(-5, -6)$

647) Ends of a diameter: $(-14, 3)$ and $(-18, -3)$

648) Ends of a diameter: $(-12, 7)$ and $(10, -3)$

649) Ends of a diameter: $(3, -9)$ and $(-1, 9)$

650) Ends of a diameter: $(-7, 19)$ and $(-7, 5)$

651) Ends of a diameter: $(-4, -9)$ and $(-6, -5)$

652) Ends of a diameter: $(12, -14)$ and $(16, -8)$

653) Ends of a diameter: $(-2, 11)$ and $(-12, -9)$

654) Ends of a diameter: $(11, 12)$ and $(9, 10)$

655) Ends of a diameter: $(10, 8)$ and $(-1, -18)$

656) Ends of a diameter: $(-10, -12)$ and $(4, -6)$

657) Ends of a diameter: $(3, 1)$ and $(-5, -15)$

658) Ends of a diameter: $(-5, -5)$ and $(13, -11)$

659) Ends of a diameter: $(-10, -2)$ and $(8, 12)$

660) Ends of a diameter: $(-6, 16)$ and $(0, -14)$

661) Ends of a diameter: $(8, -2)$ and $(10, 18)$

662) Ends of a diameter: $(13, -9)$ and $(13, 5)$

663) Ends of a diameter: $(-4, -10)$ and $(8, -14)$

664) Ends of a diameter: $(8, -5)$ and $(0, 1)$

665) Ends of a diameter: $(6, -10)$ and $(-2, -2)$

666) Ends of a diameter: $(-16, 18)$ and $(-16, 10)$

667) Ends of a diameter: $(-9, -1)$ and $(7, 3)$

668) Ends of a diameter: $(-10, 12)$ and $(-6, 18)$

669) Ends of a diameter: $(-12, 14)$ and $(-18, 14)$

670) Ends of a diameter: $(1, -4)$ and $(-7, -10)$

671) Ends of a diameter: $(-6, -6)$ and $(0, 4)$

672) Ends of a diameter: $(-12, 9)$ and $(-4, 3)$

673) Ends of a diameter: $(6, -15)$ and $(10, -17)$

674) Ends of a diameter: $(10, -15)$ and $(-6, 1)$

675) Ends of a diameter: $(-11, 7)$ and $(-4, 15)$

676) Ends of a diameter: $(7, 7)$ and $(-9, 3)$

677) Ends of a diameter: $(4, -15)$ and $(12, -11)$

678) Ends of a diameter: $(0, -9)$ and $(-10, 19)$

679) Ends of a diameter: $(0, -17)$ and $(8, 13)$

680) Ends of a diameter: $(-1, -6)$ and $(11, -2)$

681) Ends of a diameter: $(-16, 7)$ and $(0, -9)$

682) Ends of a diameter: $(-3, 11)$ and $(15, 11)$

683) Ends of a diameter: $(6, 0)$ and $(-14, 2)$

684) Ends of a diameter: $(-11, 18)$ and $(-11, 0)$

685) Ends of a diameter: $(16, -12)$ and $(18, -16)$

686) Ends of a diameter: $(-15, -9)$ and $(-14, -10)$

687) Ends of a diameter: $(-6, 6)$ and $(-2, -8)$

688) Ends of a diameter: $(0, -9)$ and $(-12, -15)$

689) Ends of a diameter: $(-13, -16)$ and $(5, 9)$

690) Ends of a diameter: $(3, 7)$ and $(-1, -19)$

691) Ends of a diameter: $(-17, 3)$ and $(17, -5)$

692) Ends of a diameter: $(6, 8)$ and $(-4, 6)$

693) Ends of a diameter: $(-7, -2)$ and $(13, -2)$

694) Ends of a diameter: $(-14, 13)$ and $(-12, 13)$

695) Ends of a diameter: $(7, 1)$ and $(-11, 15)$

696) Ends of a diameter: $(19, -13)$ and $(5, -7)$

697) Ends of a diameter: $(-16, -8)$ and $(-4, -5)$

698) Ends of a diameter: $(-2, -12)$ and $(-15, -8)$

699) Ends of a diameter: $(4, -4)$ and $(5, 5)$

700) Ends of a diameter: $(-5, 12)$ and $(14, 7)$

Use the three points on the circle to make an equation for that specific circle

701) Three points on the circle:
 $(7, 2)$, $(11, -2)$, and $(-3, -16)$

702) Three points on the circle:
 $(-6, -4)$, $(-2, 6)$, and $(-6, 2)$

703) Three points on the circle:
 $(-9, -4)$, $(-5, -8)$, and $(-5, 0)$

704) Three points on the circle:
 $(-1, -2)$, $(-6, -7)$, and $(4, -7)$

705) Three points on the circle:
 $(5, -12)$, $(19, 2)$, and $(-3, 2)$

706) Three points on the circle:
 $(3, -4)$, $(-7, -4)$, and $(-7, 8)$

707) Three points on the circle:
 $(7, 19)$, $(7, -11)$, and $(1, -11)$

708) Three points on the circle:
 $(-19, -9)$, $(-18, -10)$, and $(-12, -10)$

709) Three points on the circle:
 $(1, -3)$, $(7, 1)$, and $(3, 7)$

710) Three points on the circle:
 $(16, -2)$, $(6, 0)$, and $(18, 0)$

711) Three points on the circle:
 $(-3, 12)$, $(-6, -5)$, and $(8, -5)$

712) Three points on the circle:
 $(12, 9)$, $(12, 13)$, and $(16, 9)$

713) Three points on the circle:
 $(-1, 1)$, $(4, -4)$, and $(-10, -4)$

714) Three points on the circle:
 $(-8, -11)$, $(-10, -9)$, and $(-10, -13)$

715) Three points on the circle:
 $(7, 18)$, $(10, 15)$, and $(-1, 18)$

716) Three points on the circle:
 $(-5, 0)$, $(-5, 10)$, and $(-10, 5)$

717) Three points on the circle:
 $(-7, -16)$, $(-4, -17)$, and $(-4, -13)$

718) Three points on the circle:
 $(3, 7)$, $(3, -15)$, and $(-9, -15)$

719) Three points on the circle:
 $(-14, -10)$, $(1, -9)$, and $(-15, -9)$

720) Three points on the circle:
 $(-4, 12)$, $(-10, -8)$, and $(16, -8)$

721) Three points on the circle:
 $(3, -2)$, $(1, -4)$, and $(3, 8)$

722) Three points on the circle:
 $(-10, -8)$, $(-10, 14)$, and $(3, 1)$

723) Three points on the circle:
 $(3, -9)$, $(15, -9)$, and $(8, -2)$

724) Three points on the circle:
 $(-13, 6)$, $(-3, 6)$, and $(-13, 16)$

725) Three points on the circle:
 $(6, -2)$, $(4, -4)$, and $(8, -4)$

726) Three points on the circle:
 $(0, -1)$, $(-10, -1)$, and $(0, -11)$

727) Three points on the circle:
 $(13, 6)$, $(14, 7)$, and $(14, 13)$

728) Three points on the circle:
 $(10, 1)$, $(-8, -3)$, and $(-1, -16)$

729) Three points on the circle:
 $(-5, -15)$, $(-1, -1)$, and $(-14, 1)$

730) Three points on the circle:
 $(-14, -15)$, $(-11, -2)$, and $(-1, -18)$

731) Three points on the circle:
 $(4, 2)$, $(3, -15)$, and $(-8, -18)$

732) Three points on the circle:
 $(13, 1)$, $(13, 17)$, and $(18, 6)$

733) Three points on the circle:
 $(13, -6)$, $(9, 4)$, and $(6, 1)$

734) Three points on the circle:
 $(13, -4)$, $(13, -6)$, and $(10, -9)$

735) Three points on the circle:
 $(-11, -13)$, $(-1, -3)$, and $(-11, -3)$

736) Three points on the circle:
 $(17, -2)$, $(10, -3)$, and $(16, 5)$

737) Three points on the circle:
 $(-1, -4)$, $(8, -5)$, and $(15, 5)$

738) Three points on the circle:
 $(3, -4)$, $(15, -4)$, and $(16, -3)$

739) Three points on the circle:
 $(-10, 6)$, $(-4, -2)$, and $(-2, 12)$

740) Three points on the circle:
 $(-6, 7)$, $(2, 15)$, and $(-6, 15)$

741) Three points on the circle:
 $(4, -19)$, $(-18, -7)$, and $(16, -7)$

742) Three points on the circle:
 $(8, -1)$, $(-4, 11)$, and $(-4, -7)$

743) Three points on the circle:
 $(-8, 0)$, $(-1, 7)$, and $(8, -2)$

744) Three points on the circle:
 $(15, 4)$, $(20, 9)$, and $(15, 14)$

745) Three points on the circle:
 $(11, 0)$, $(1, 18)$, and $(15, 14)$

746) Three points on the circle:
 $(9, -13)$, $(13, -17)$, and $(13, -9)$

747) Three points on the circle:
 $(11, 7)$, $(11, -3)$, and $(8, 4)$

748) Three points on the circle:
 $(2, 9)$, $(8, 17)$, and $(16, 11)$

749) Three points on the circle:
 $(-10, 3)$, $(-5, -7)$, and $(5, 11)$

750) Three points on the circle:
 $(14, 5)$, $(10, 9)$, and $(-6, -7)$

751) Three points on the circle:
 $(14, -1)$, $(11, 2)$, and $(17, 2)$

752) Three points on the circle:
 $(12, 18)$, $(16, 18)$, and $(9, 15)$

753) Three points on the circle:
 $(8, 8)$, $(8, 10)$, and $(13, 5)$

754) Three points on the circle:
 $(3, -17)$, $(9, 3)$, and $(16, -4)$

755) Three points on the circle:
 $(-4, -13)$, $(-6, -11)$, and $(14, 9)$

756) Three points on the circle:
 $(-6, -10)$, $(-12, -4)$, and $(-12, 2)$

757) Three points on the circle:
 $(15, 1)$, $(-17, 1)$, and $(-1, -15)$

758) Three points on the circle:
 $(3, 17)$, $(3, -9)$, and $(1, -9)$

759) Three points on the circle:
 $(-1, 8)$, $(1, -4)$, and $(-17, -2)$

760) Three points on the circle:
 $(7, 7)$, $(1, 4)$, and $(17, -8)$

761) Three points on the circle:
 $(14, 4)$, $(-5, 17)$, and $(-7, -7)$

762) Three points on the circle:
 $(-11, -12)$, $(-11, 8)$, and $(3, -12)$

763) Three points on the circle:
 $(-10, -8)$, $(1, 3)$, and $(-17, -1)$

764) Three points on the circle:
 $(16, -3)$, $(10, 3)$, and $(4, -3)$

765) Three points on the circle:
 $(-11, 10)$, $(-9, -14)$, and $(13, -14)$

766) Three points on the circle:
 $(6, -6)$, $(5, -7)$, and $(-4, -6)$

767) Three points on the circle:
 $(-2, 2)$, $(7, -1)$, and $(1, 11)$

768) Three points on the circle:
 $(-3, 15)$, $(-16, 2)$, and $(18, 2)$

769) Three points on the circle:
 $(-6, -2)$, $(-1, -7)$, and $(12, -2)$

770) Three points on the circle:
 $(4, 15)$, $(-15, -10)$, and $(-19, 7)$

771) Three points on the circle:
 $(-4, 13)$, $(-6, 13)$, and $(3, 6)$

772) Three points on the circle:
 $(8, -18)$, $(17, -9)$, and $(-3, -9)$

773) Three points on the circle:
 $(10, 8)$, $(6, 0)$, and $(4, 2)$

774) Three points on the circle:
 $(12, -6)$, $(-4, 10)$, and $(-4, 0)$

775) Three points on the circle:
 $(2, -4)$, $(4, -4)$, and $(3, -5)$

776) Three points on the circle:
 $(-3, 12)$, $(-2, 11)$, and $(-3, 10)$

777) Three points on the circle:
 $(1, 2)$, $(1, 8)$, and $(2, 7)$

778) Three points on the circle:
 $(8, -7)$, $(-6, 17)$, and $(-6, -7)$

779) Three points on the circle:
 $(1, -3)$, $(-15, -9)$, and $(-4, 2)$

780) Three points on the circle:
 $(-9, 9)$, $(5, 9)$, and $(4, -4)$

781) Three points on the circle:
 $(5, 4)$, $(0, -1)$, and $(14, -1)$

782) Three points on the circle:
 $(13, -6)$, $(13, 0)$, and $(11, -4)$

783) Three points on the circle:
 $(6, 2)$, $(0, 12)$, and $(-2, 4)$

784) Three points on the circle:
 $(3, 9)$, $(-3, 3)$, and $(-3, -3)$

785) Three points on the circle:
 $(-1, -6)$, $(6, 1)$, and $(6, -5)$

786) Three points on the circle:
 $(-1, -17)$, $(-12, -8)$, and $(8, -8)$

787) Three points on the circle:
 $(11, 5)$, $(14, 2)$, and $(8, 2)$

788) Three points on the circle:
 $(3, -7)$, $(7, -7)$, and $(8, -8)$

789) Three points on the circle:
 $(5, 19)$, $(-4, 8)$, and $(-2, 16)$

790) Three points on the circle:
 $(19, -6)$, $(4, 13)$, and $(16, -12)$

791) Three points on the circle:
 $(17, -9)$, $(2, 6)$, and $(-5, -9)$

792) Three points on the circle:
 $(-1, -4)$, $(4, -5)$, and $(11, 15)$

793) Three points on the circle:
 $(-16, 3)$, $(7, -2)$, and $(2, -9)$

794) Three points on the circle:
 $(0, 12)$, $(14, -2)$, and $(-16, -2)$

795) Three points on the circle:
 $(-11, 3)$, $(-9, 1)$, and $(-13, 1)$

796) Three points on the circle:
 $(9, 12)$, $(0, 13)$, and $(8, 3)$

797) Three points on the circle:
 $(-1, 9)$, $(-5, 5)$, and $(1, 7)$

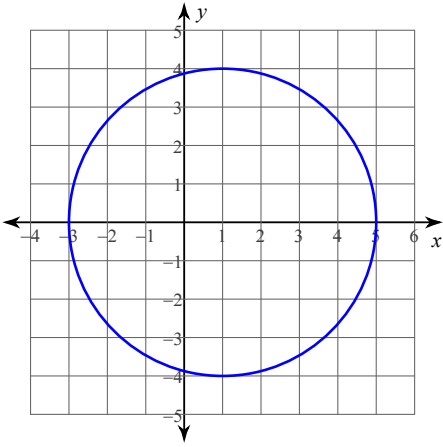
798) Three points on the circle:
 $(14, -6)$, $(14, -10)$, and $(2, -10)$

799) Three points on the circle:
 $(-10, -17)$, $(0, -7)$, and $(0, -15)$

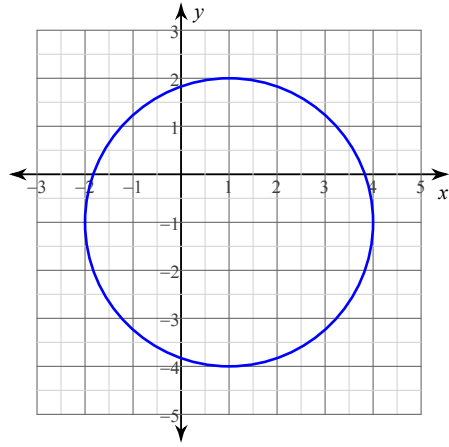
800) Three points on the circle:
 $(6, -3)$, $(-9, 8)$, and $(7, 14)$

Use the drawn graph to make an equation for that specific circle

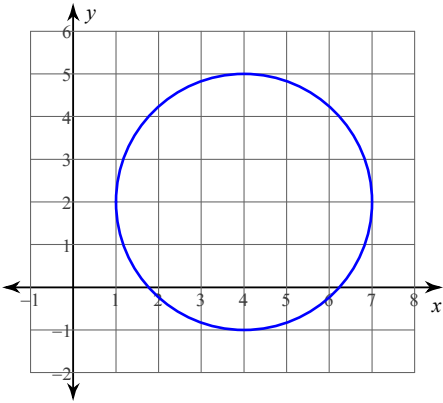
801)



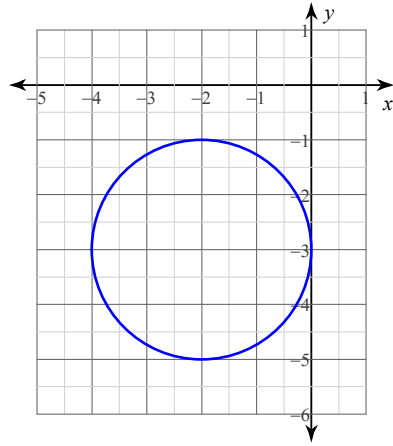
802)



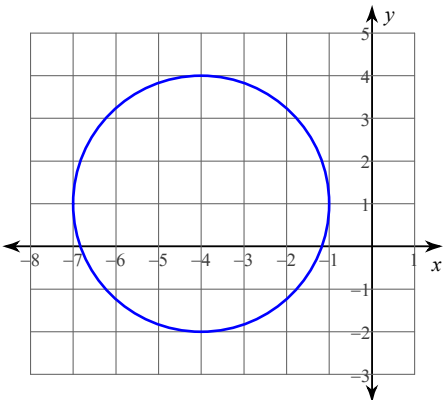
803)



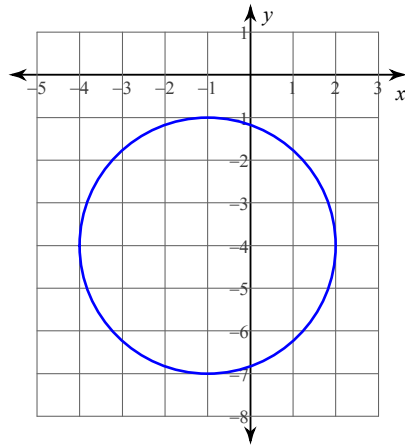
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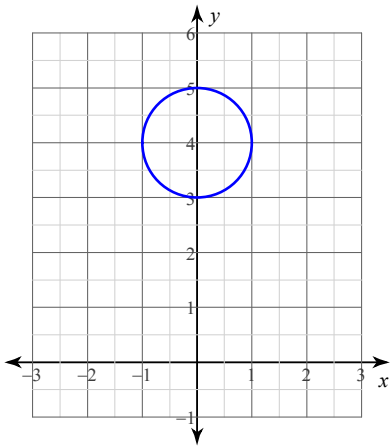
805)



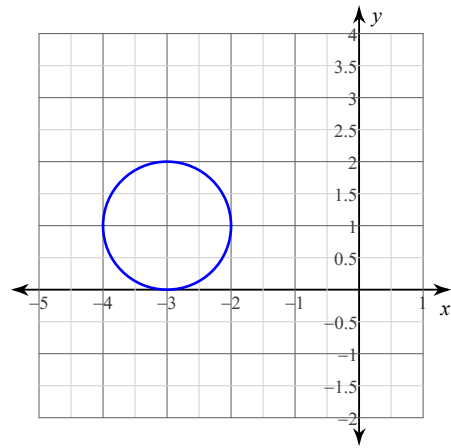
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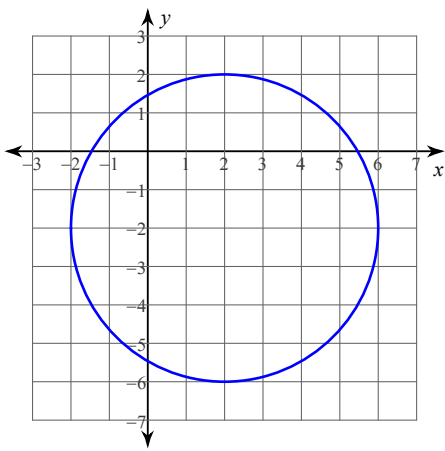
807)



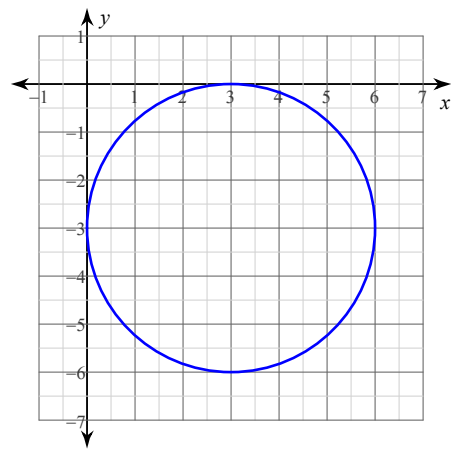
808)



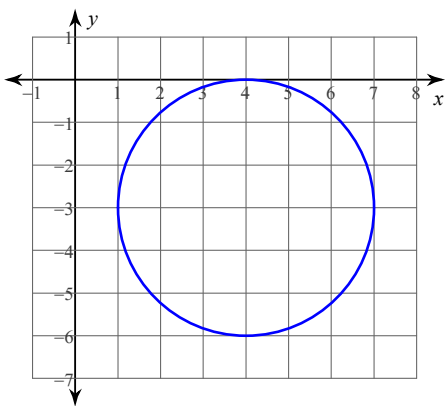
809)



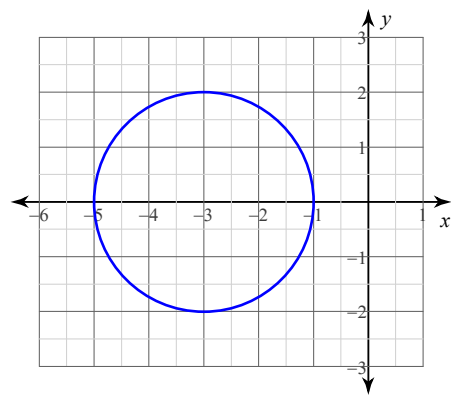
810)



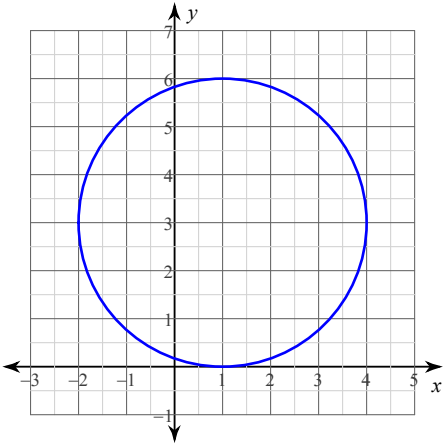
811)



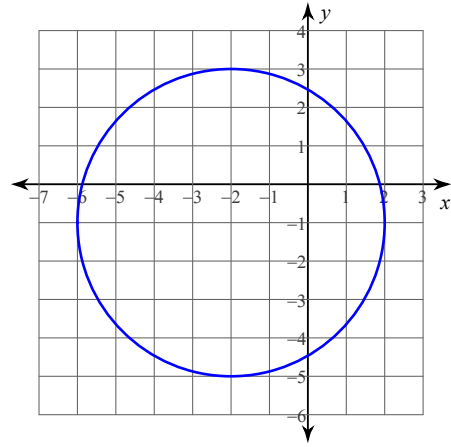
812)



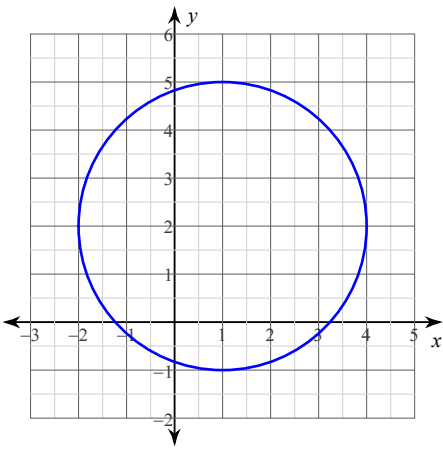
813)



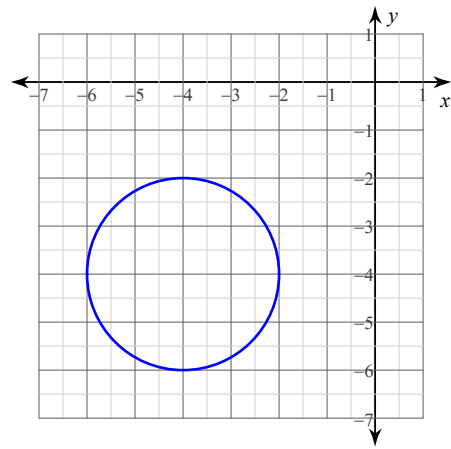
814)



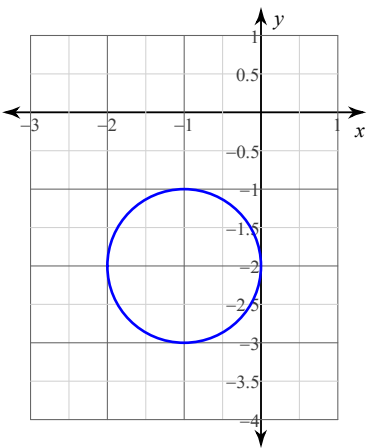
815)



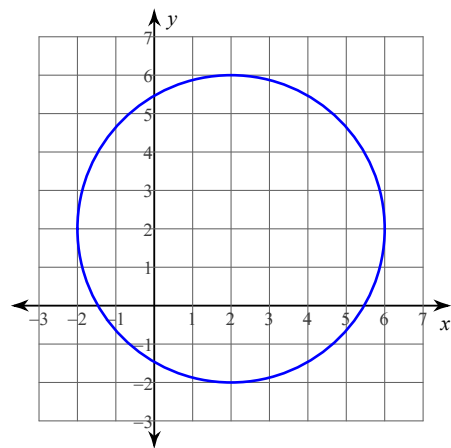
816)



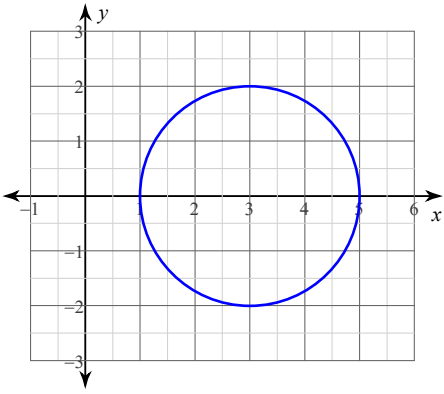
817)



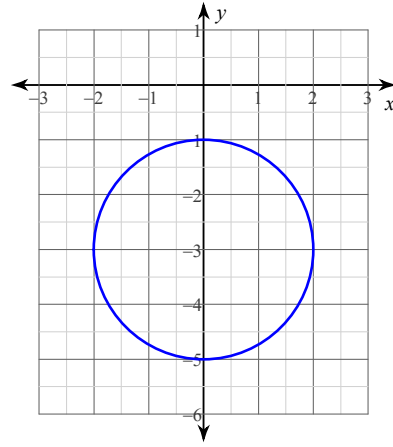
818)



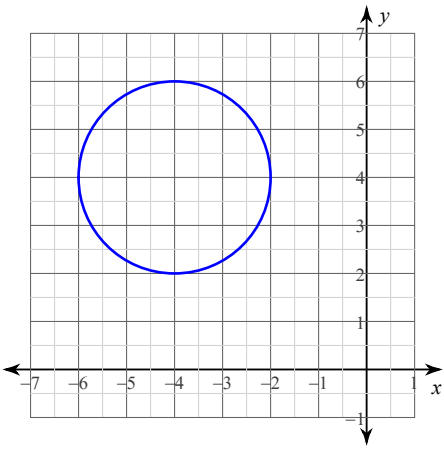
819)



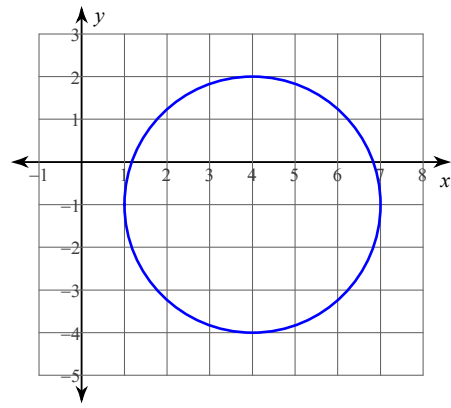
820)



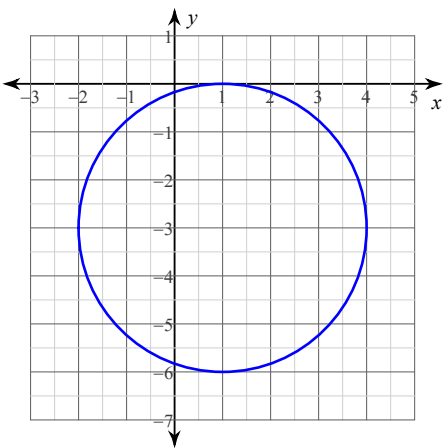
821)



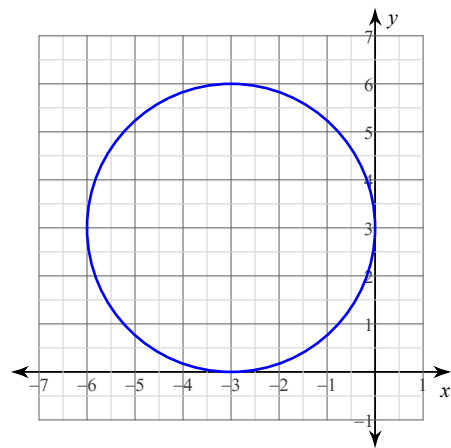
822)



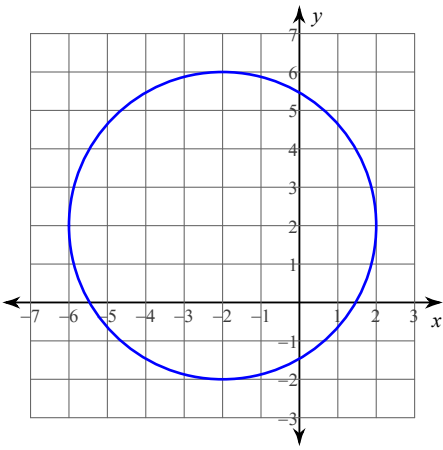
823)



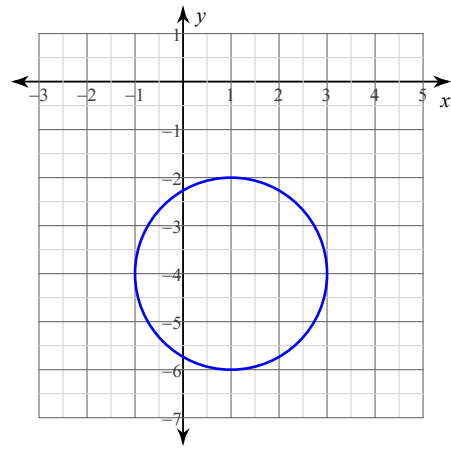
824)



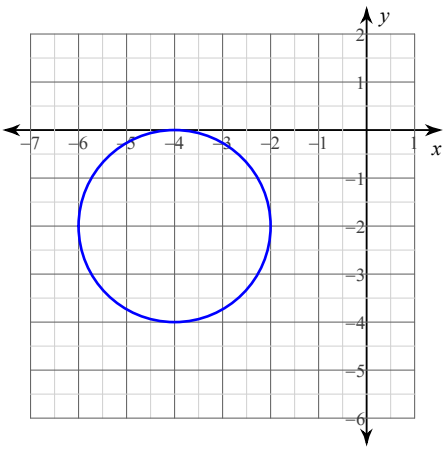
825)



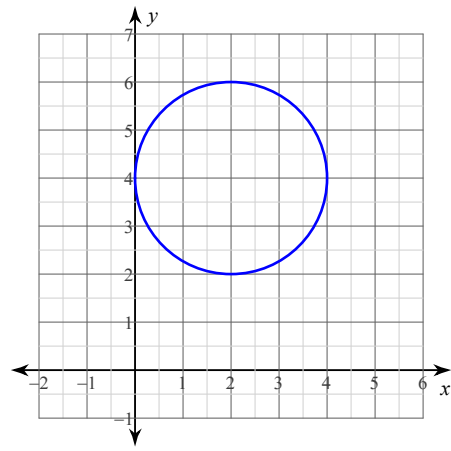
826)



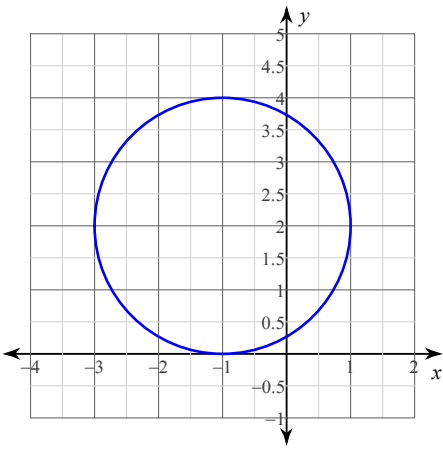
827)



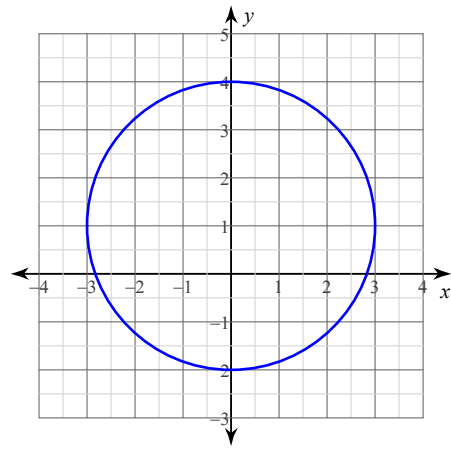
828)



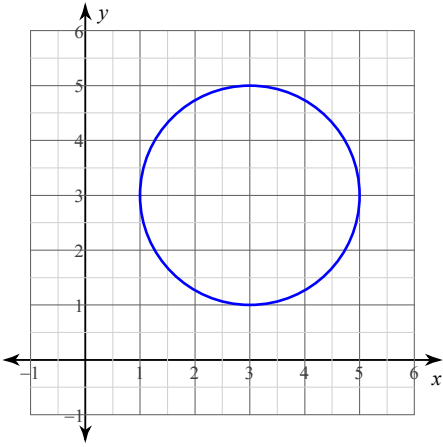
829)



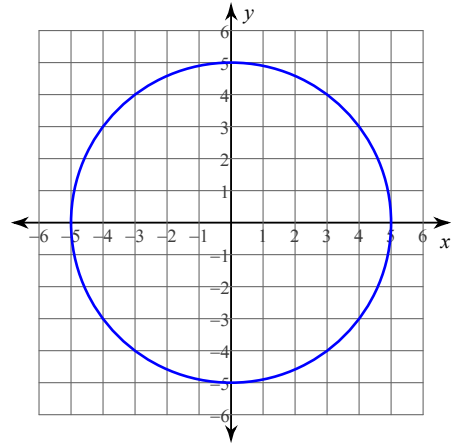
830)



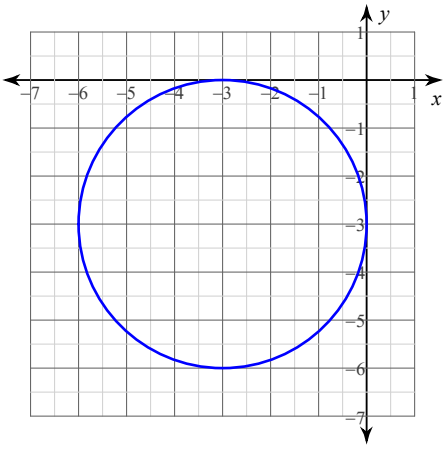
831)



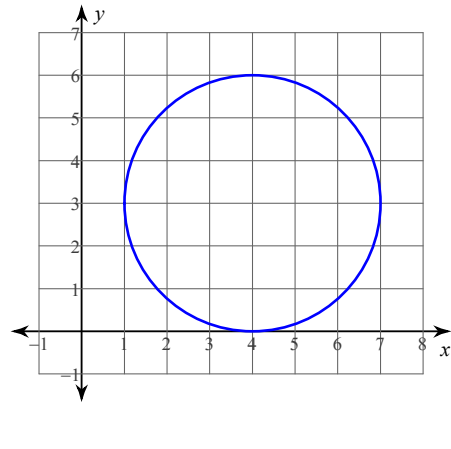
832)



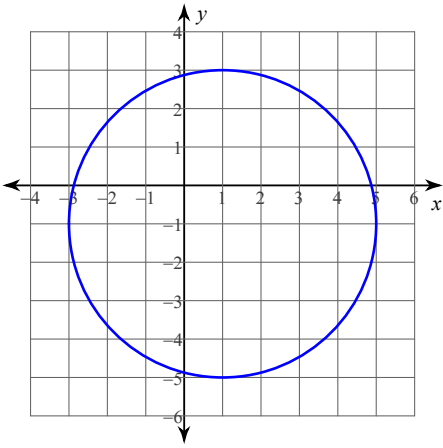
833)



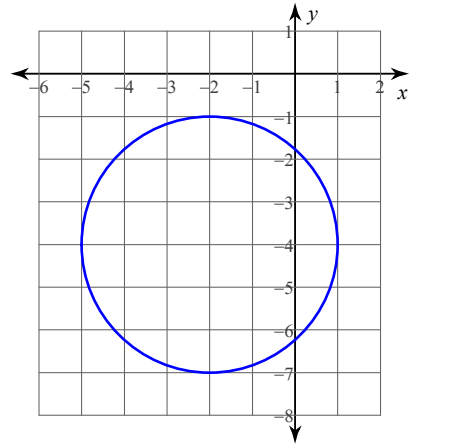
834)



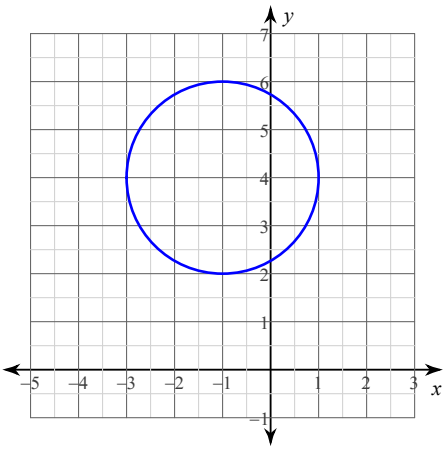
835)



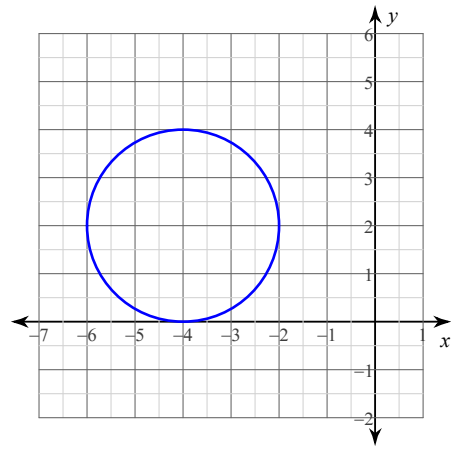
836)



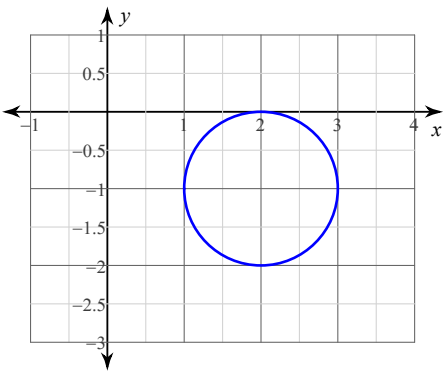
837)



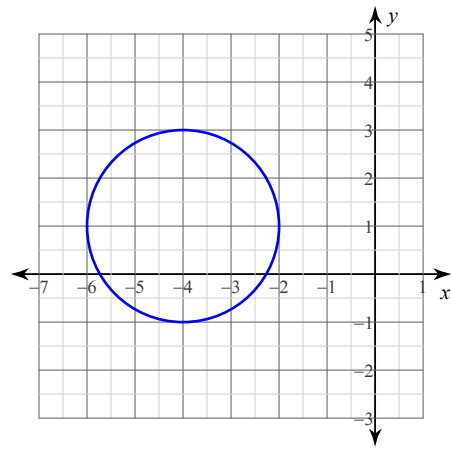
838)



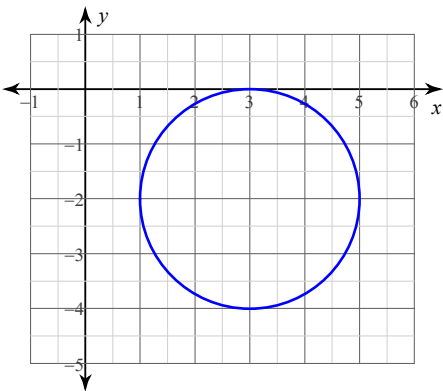
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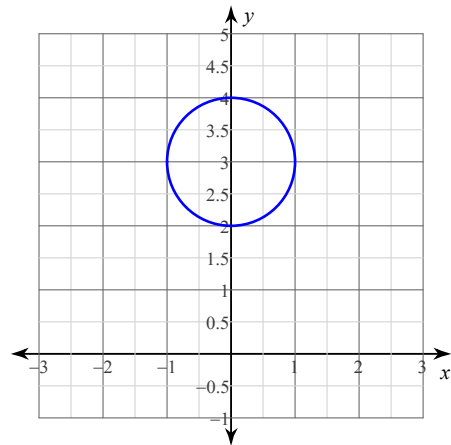
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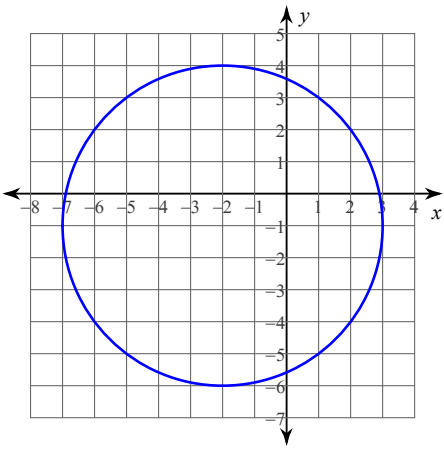
841)



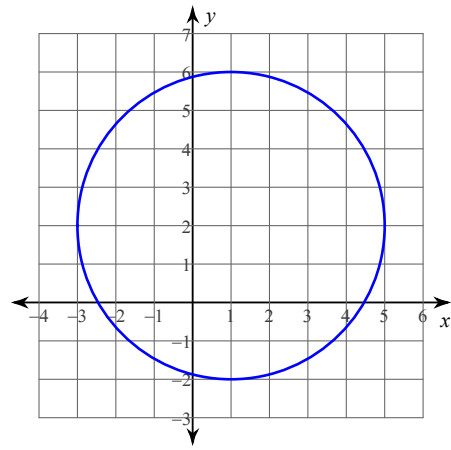
842)



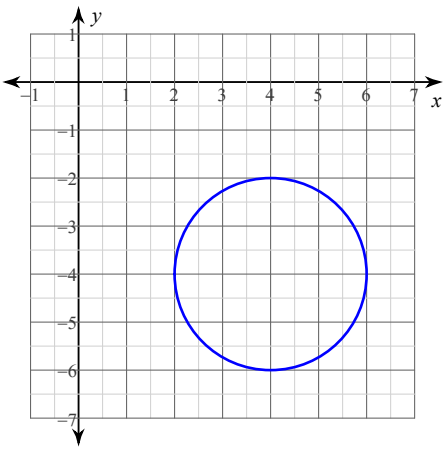
843)



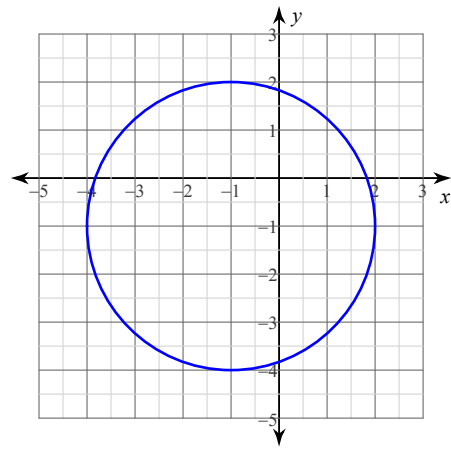
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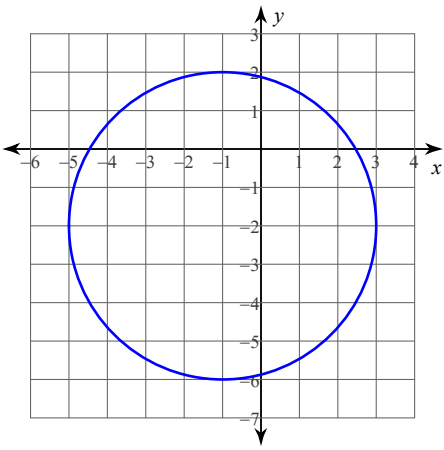
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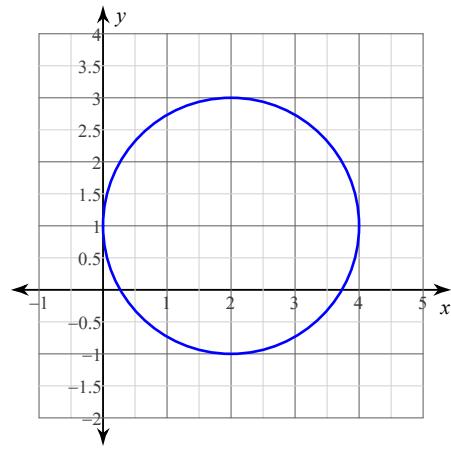
846)



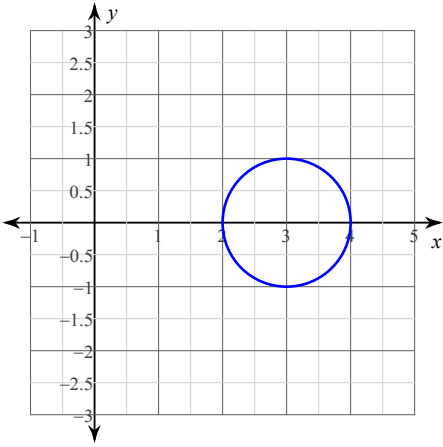
847)



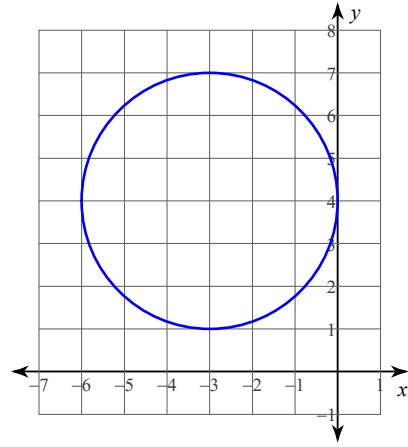
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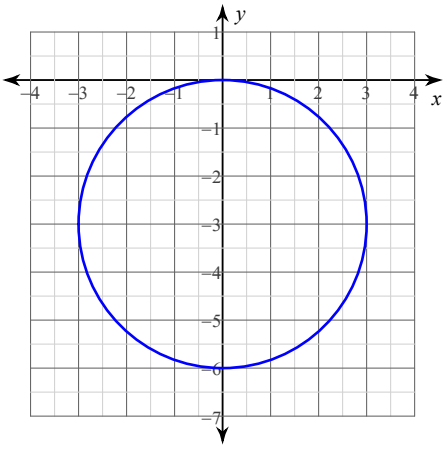
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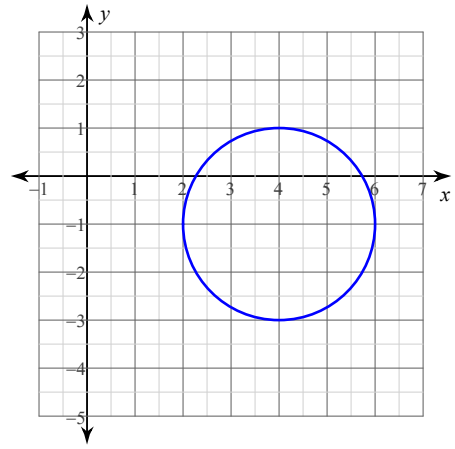
850)



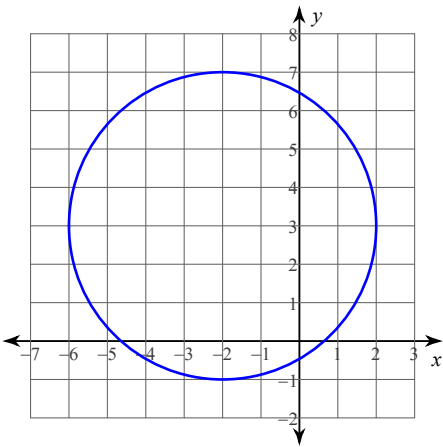
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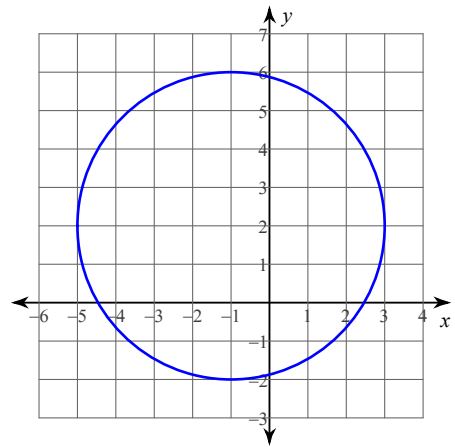
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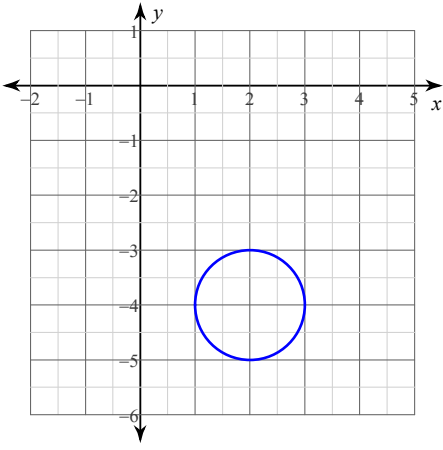
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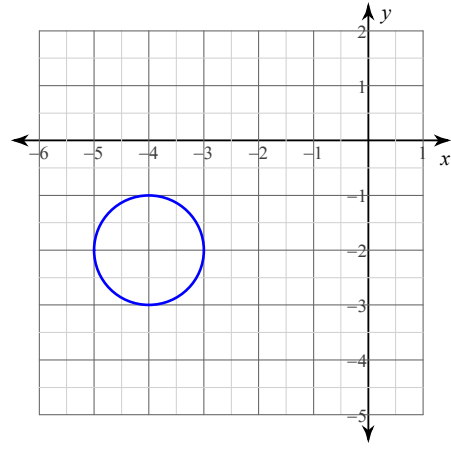
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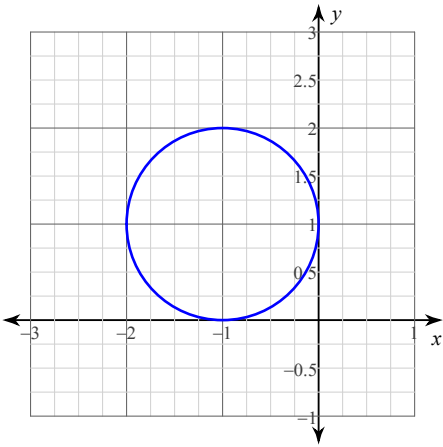
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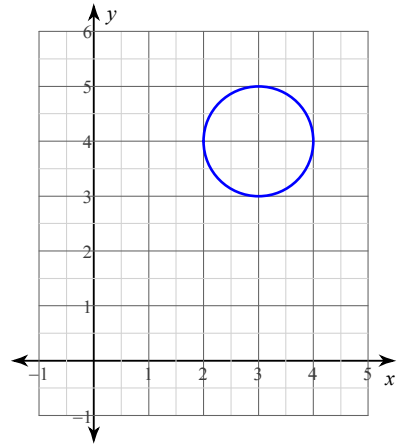
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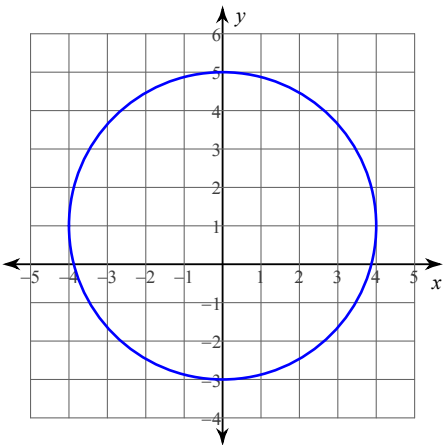
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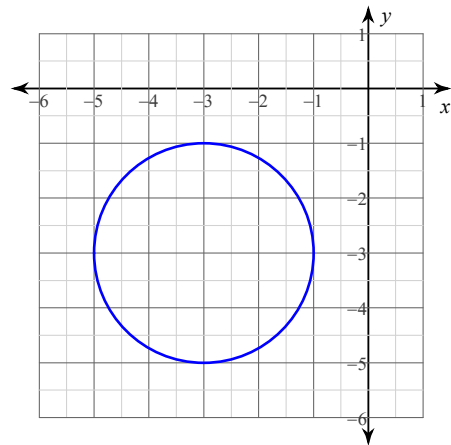
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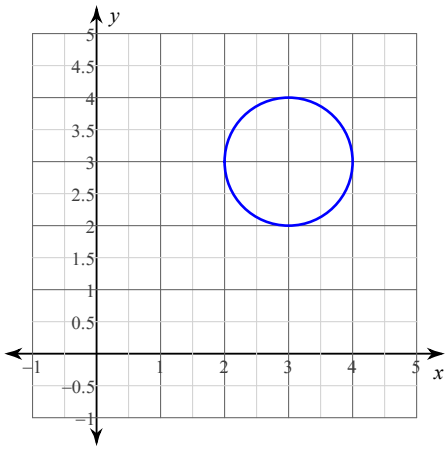
859)



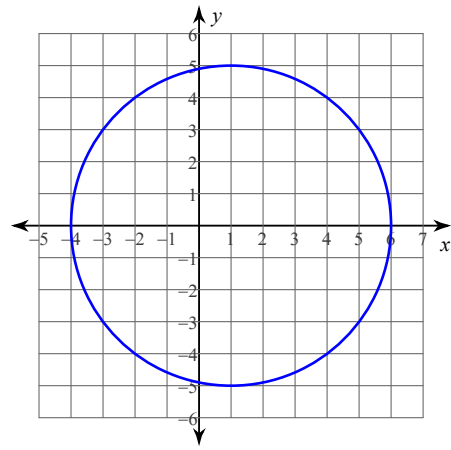
860)



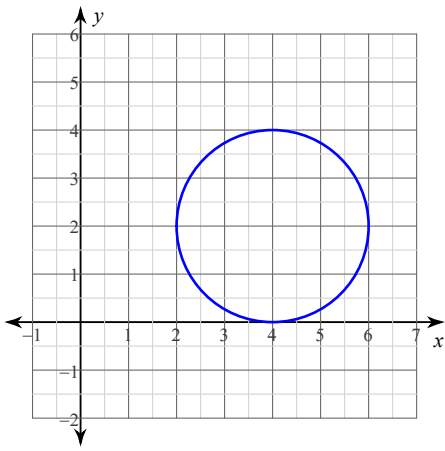
861)



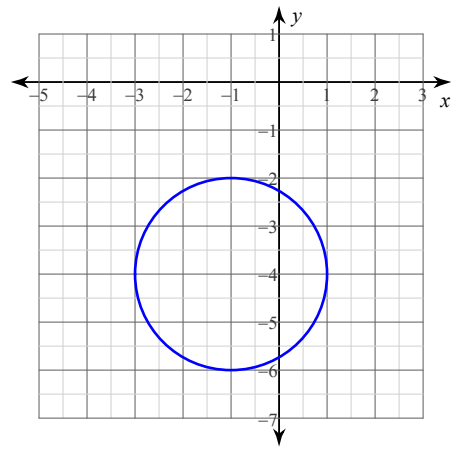
862)



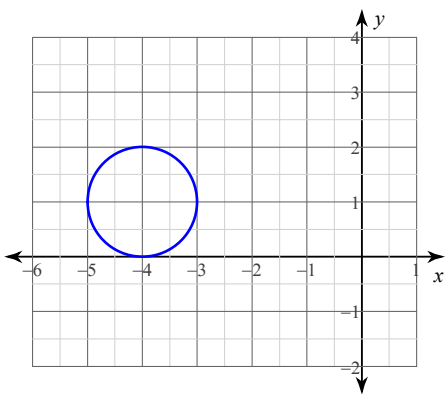
863)



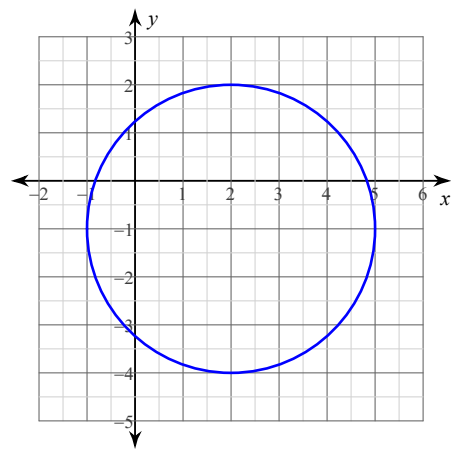
864)



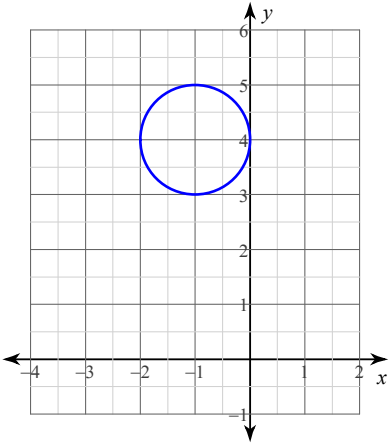
865)



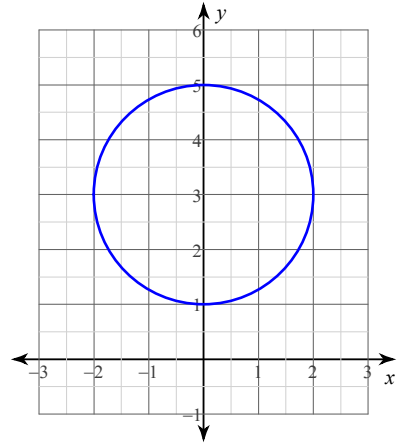
866)



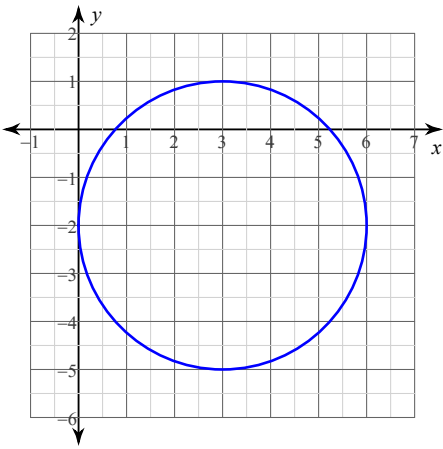
867)



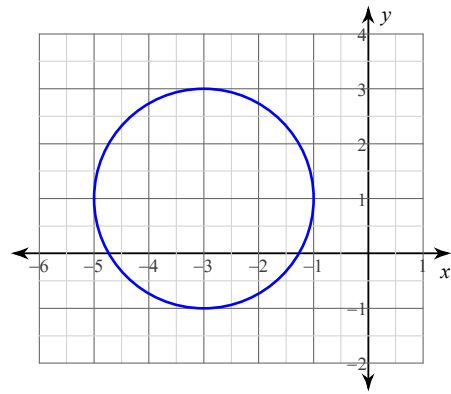
868)



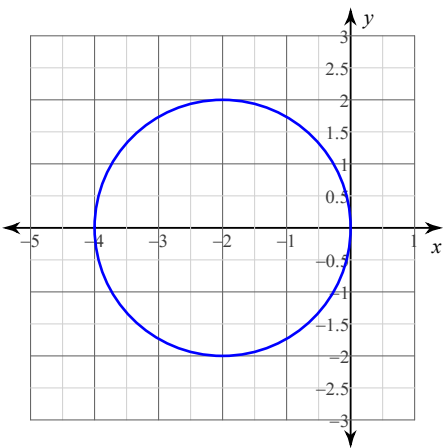
869)



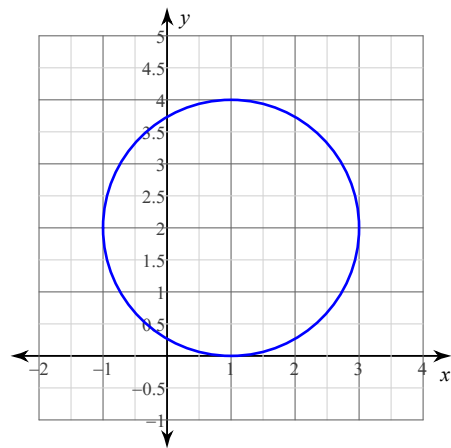
870)



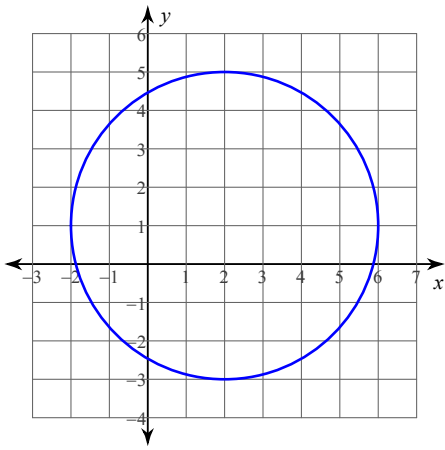
871)



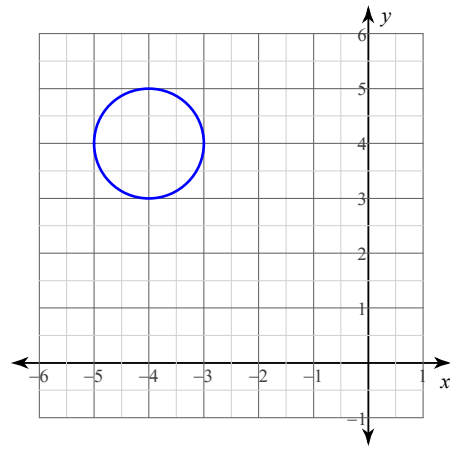
872)



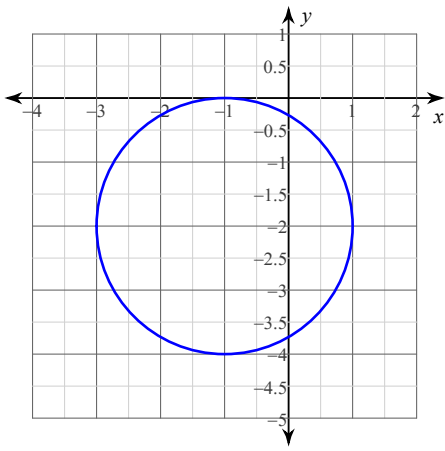
873)



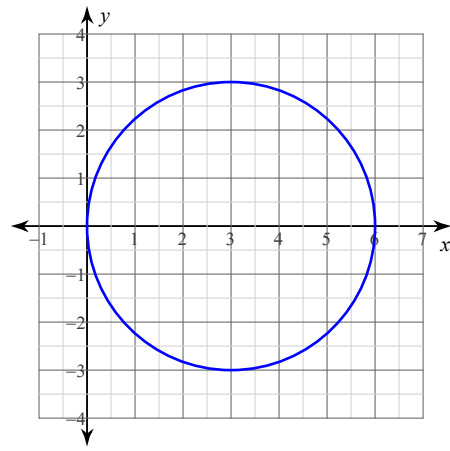
874)



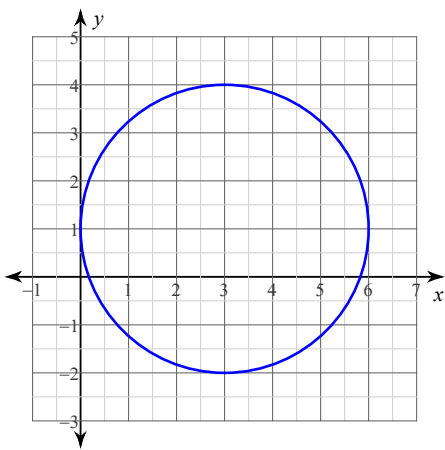
875)



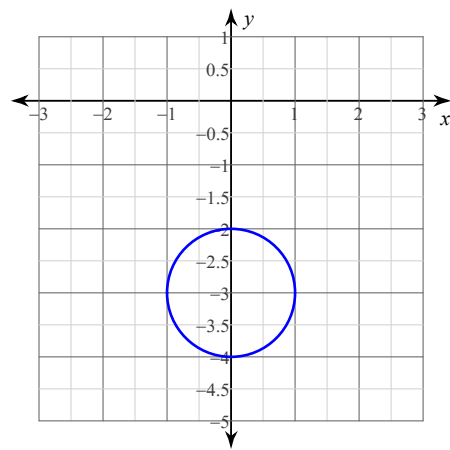
876)



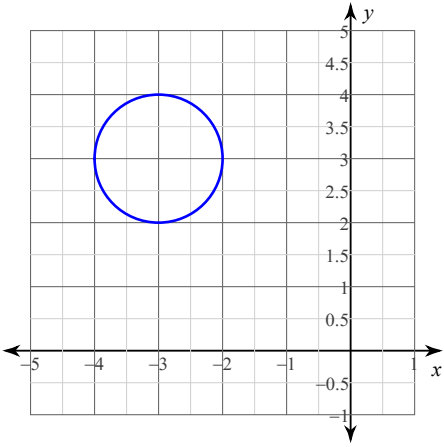
877)



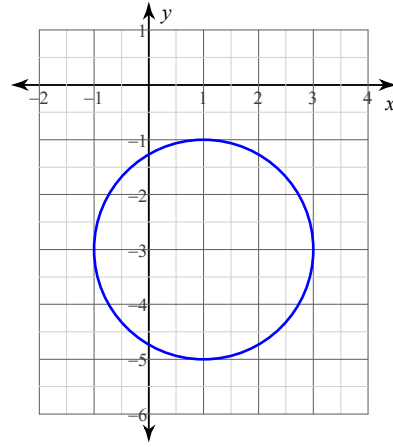
878)



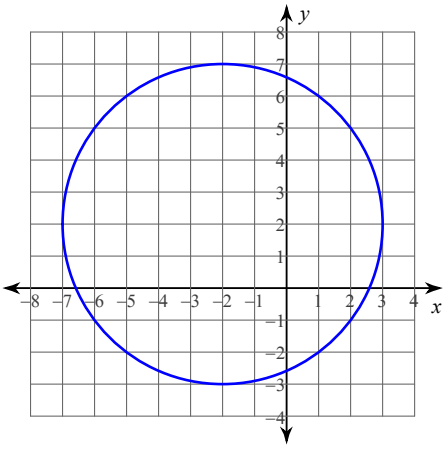
879)



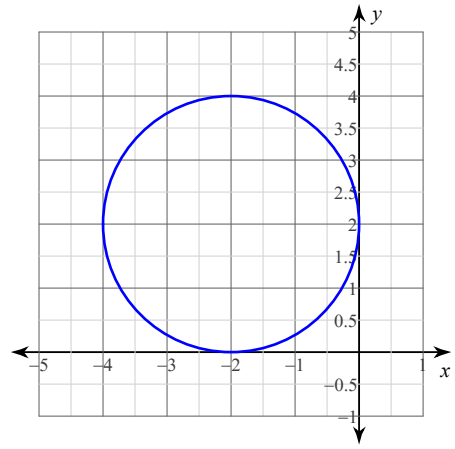
880)



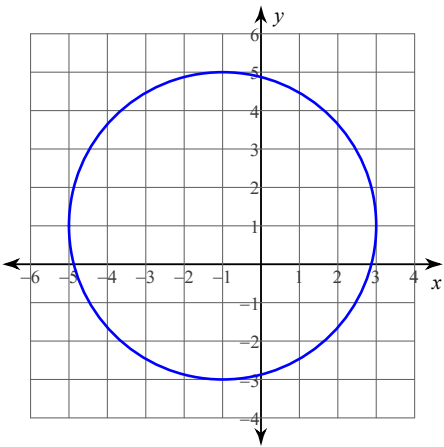
881)



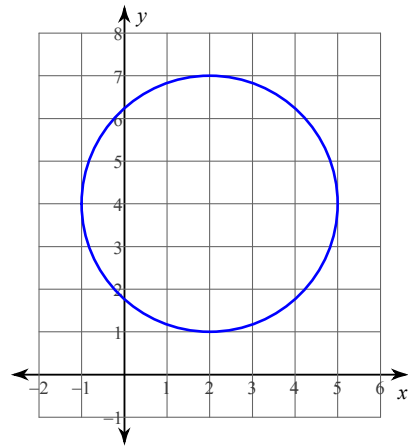
882)



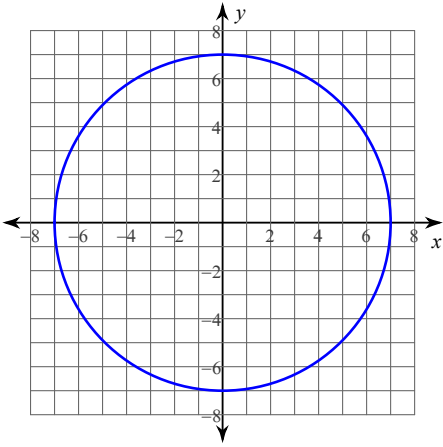
883)



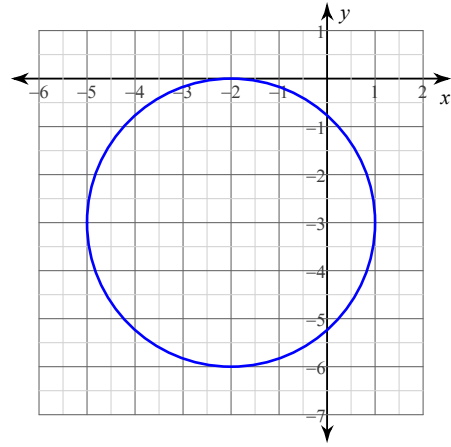
884)



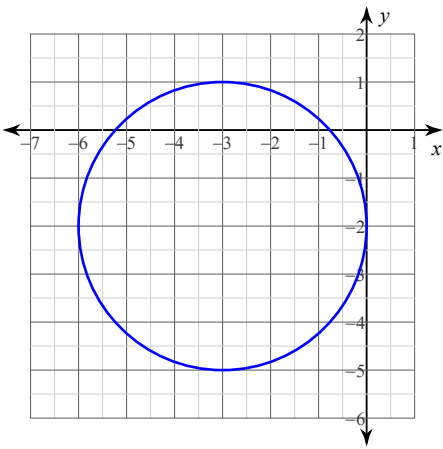
885)



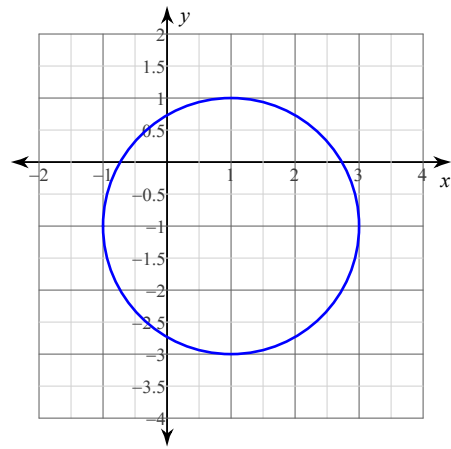
886)



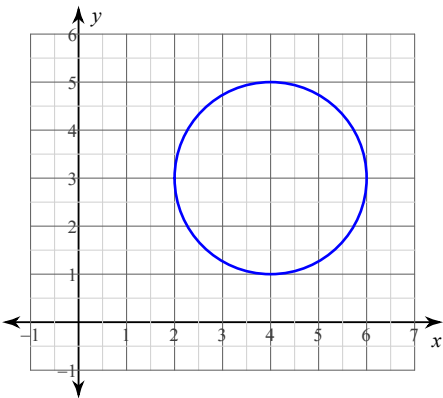
887)



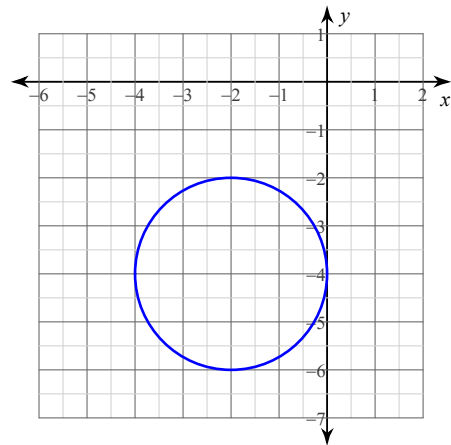
888)



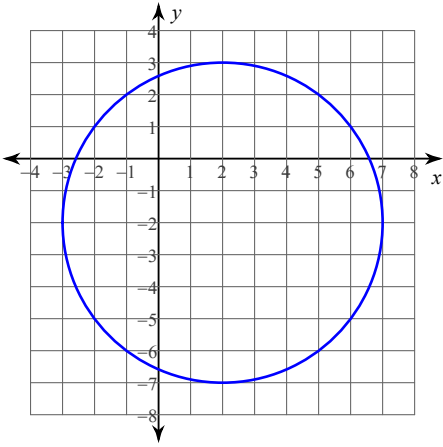
889)



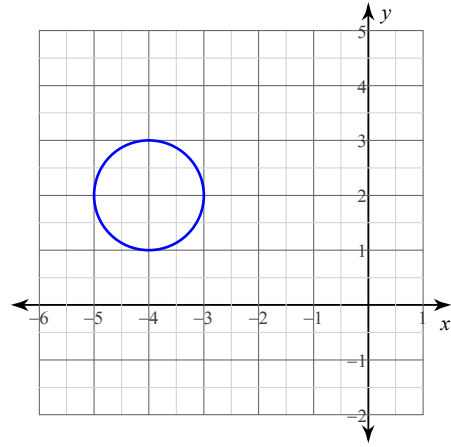
890)



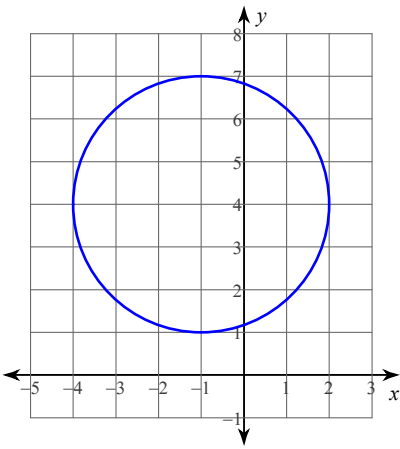
891)



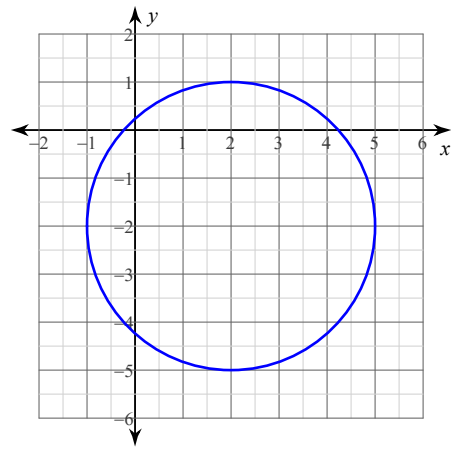
892)



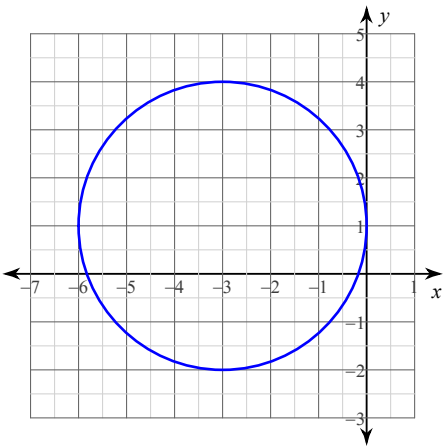
893)



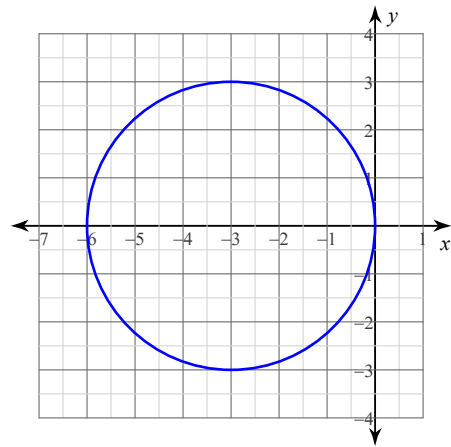
894)



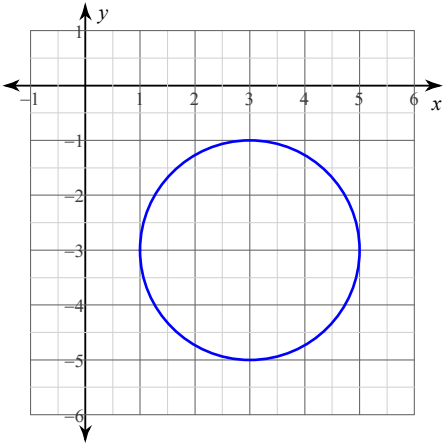
895)



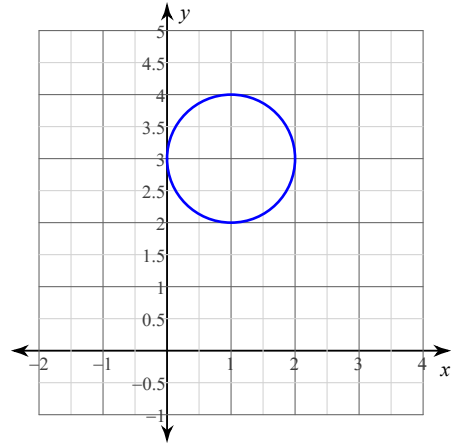
896)



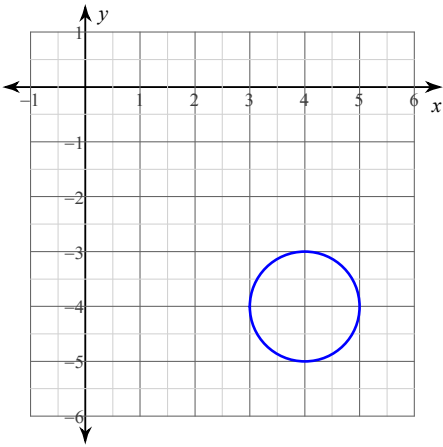
897)



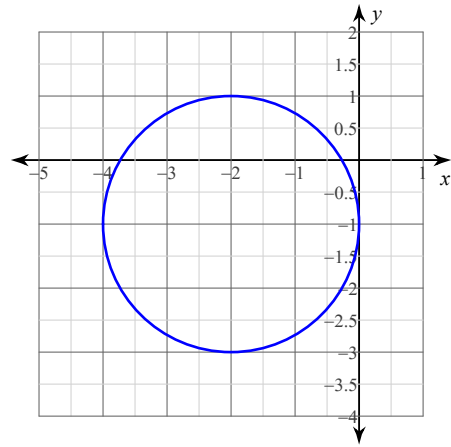
898)



899)

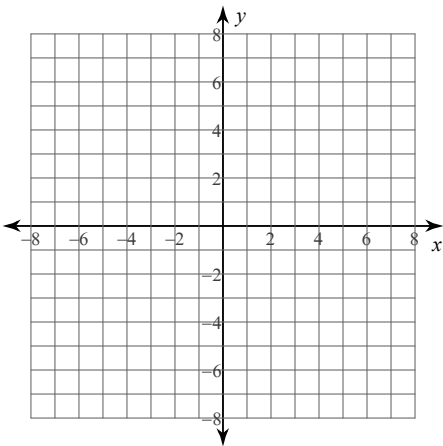


900)

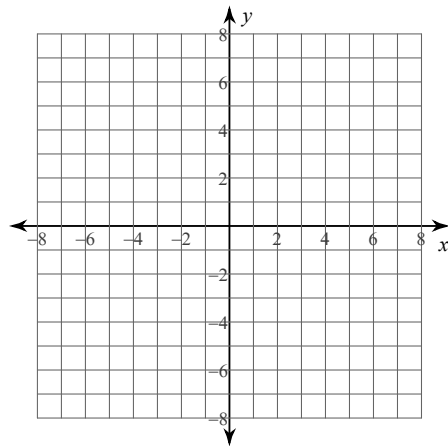


Find the center and radius and sketch a graph

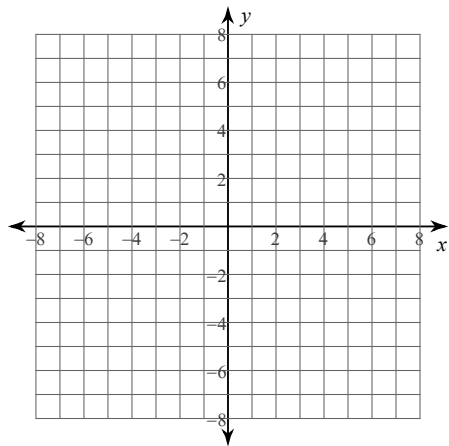
$$901) (x - 1)^2 + (y - 2)^2 = 23$$



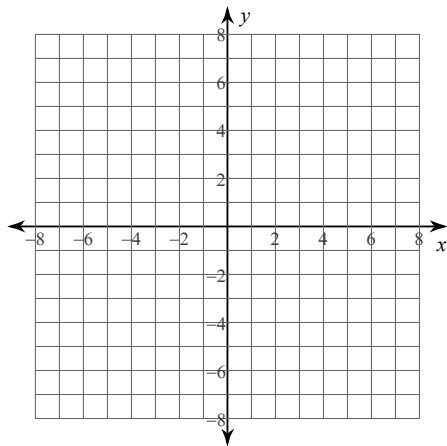
$$902) (x - 2)^2 + (y + 1)^2 = 1$$



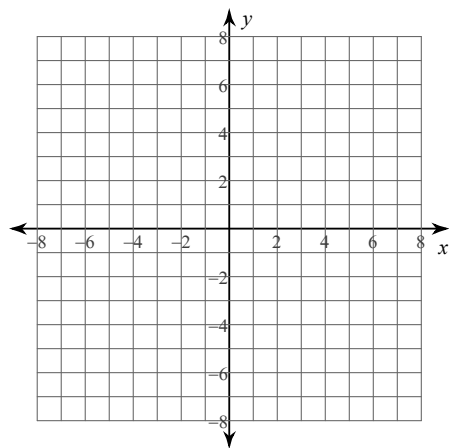
$$903) (x - 1)^2 + (y - 4)^2 = 1$$



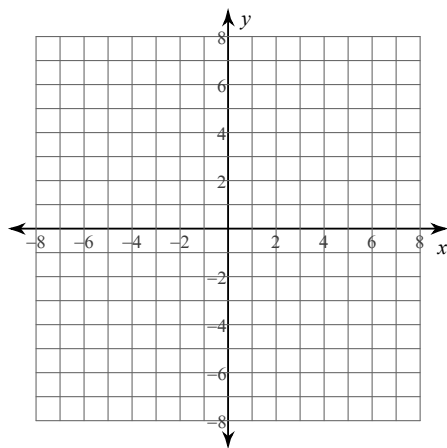
$$904) (x - 2)^2 + (y + 3)^2 = 7$$



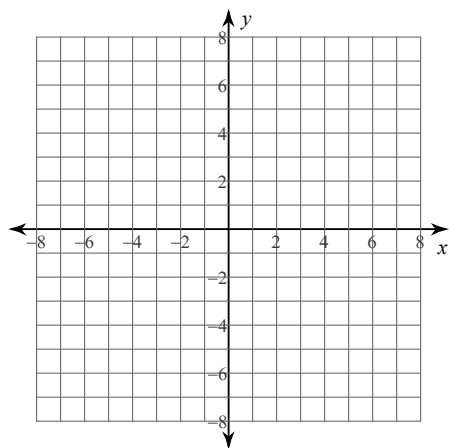
$$905) x^2 + y^2 = 16$$



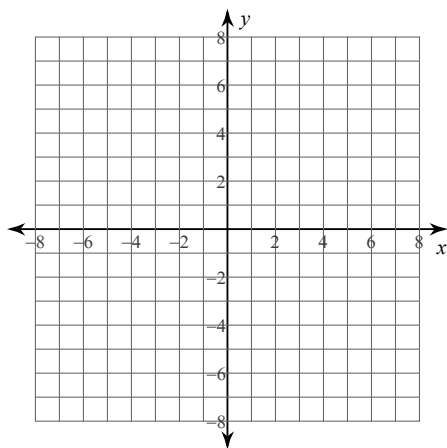
$$906) x^2 + (y + 4)^2 = 1$$



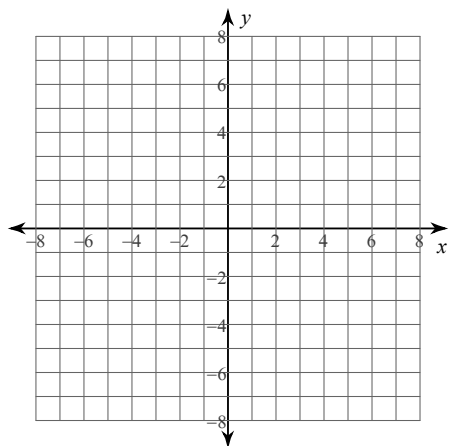
$$907) x^2 + (y - 3)^2 = 4$$



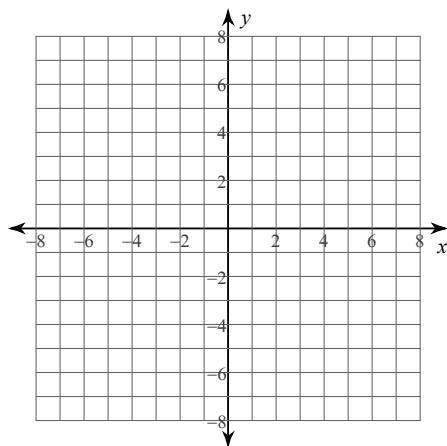
$$908) (x - 1)^2 + (y + 1)^2 = 9$$



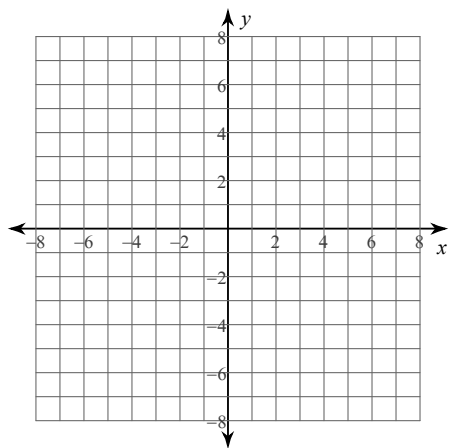
$$909) (x + 1)^2 + (y - 2)^2 = 9$$



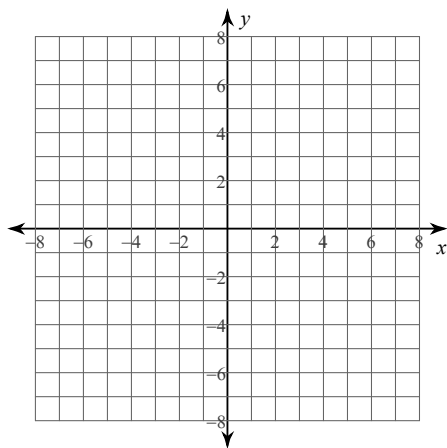
$$910) (x + 1)^2 + y^2 = 4$$



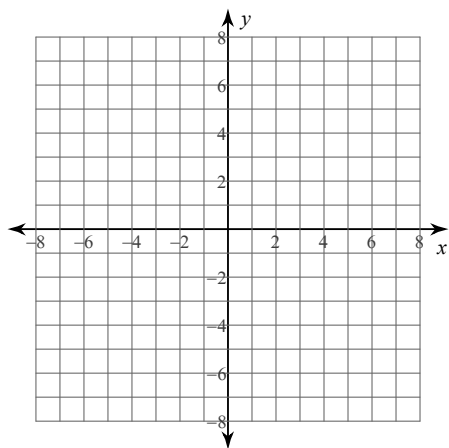
$$911) (x + 1)^2 + (y + 3)^2 = 4$$



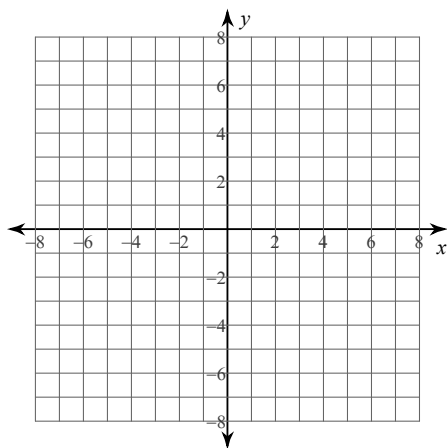
$$912) (x + 1)^2 + (y + 4)^2 = 6$$



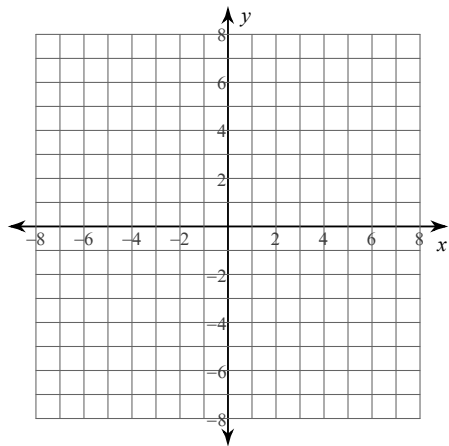
$$913) (x + 1)^2 + (y - 3)^2 = 9$$



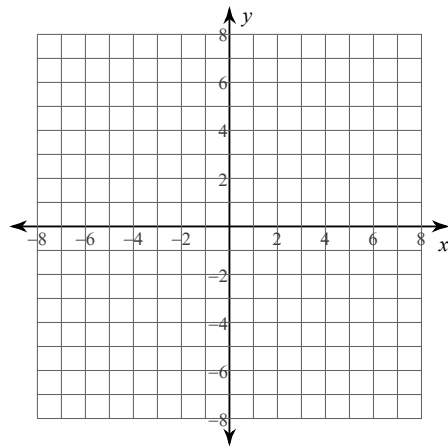
$$914) (x + 2)^2 + (y + 1)^2 = 16$$



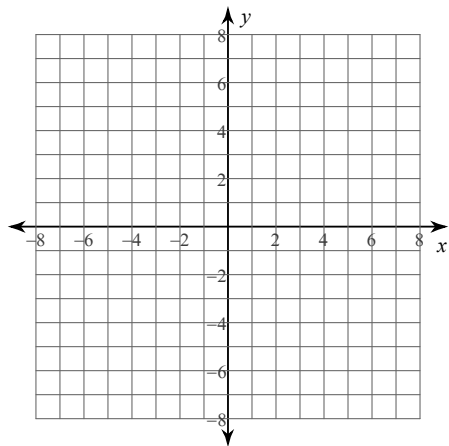
$$915) (x + 3)^2 + (y + 3)^2 = 1$$



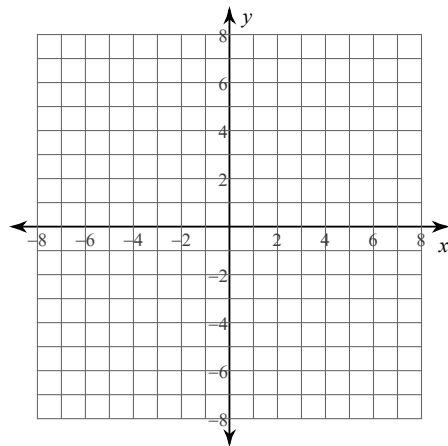
$$916) (x + 2)^2 + (y - 1)^2 = 14$$



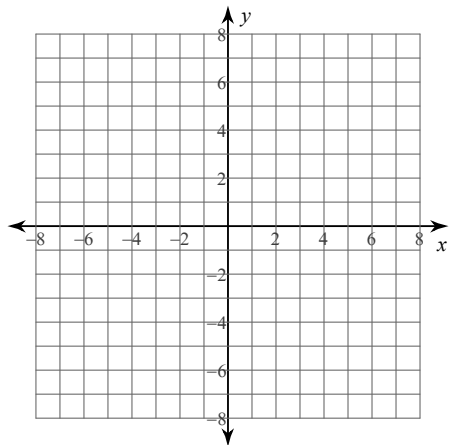
$$917) (x + 3)^2 + (y - 4)^2 = 1$$



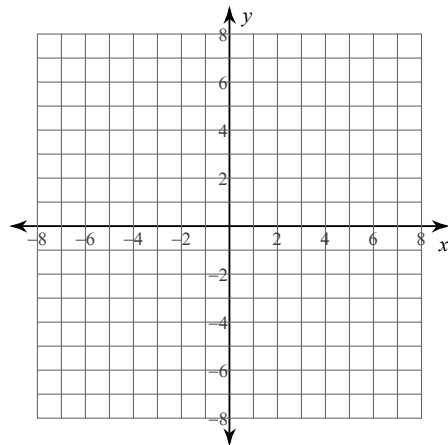
$$918) (x + 3)^2 + (y - 1)^2 = 1$$



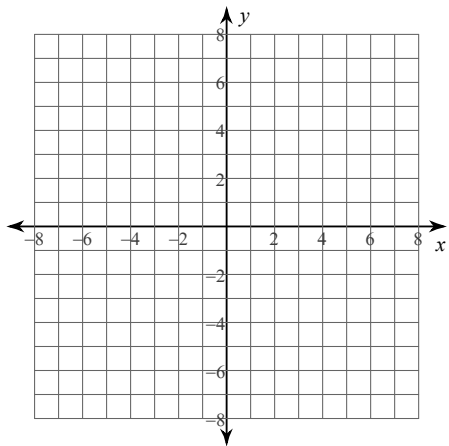
$$919) (x + 4)^2 + (y + 2)^2 = 1$$



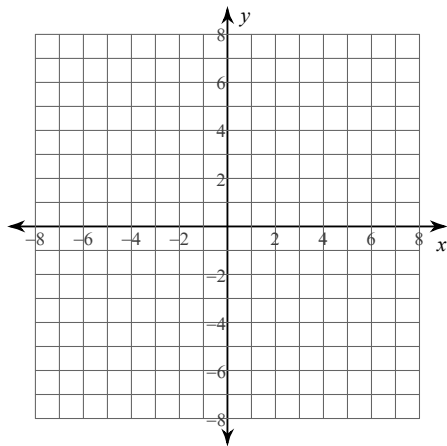
$$920) (x + 4)^2 + (y + 4)^2 = 1$$



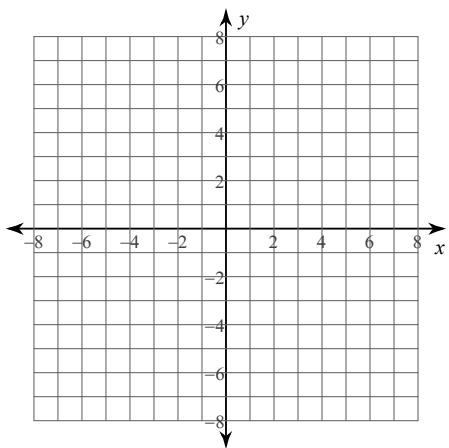
$$921) (x + 3)^2 + y^2 = 11$$



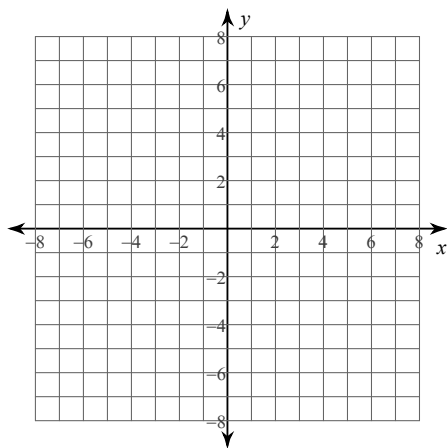
$$922) (x + 4)^2 + (y - 3)^2 = 9$$



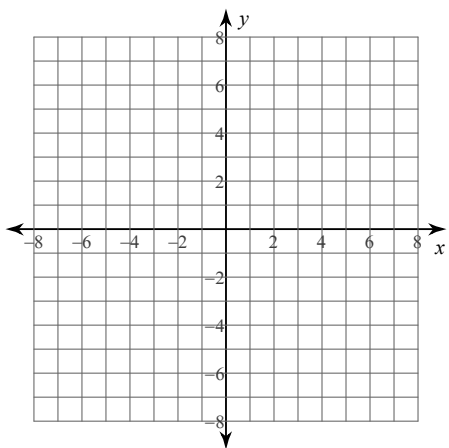
$$923) (x + 4)^2 + (y + 1)^2 = 7$$



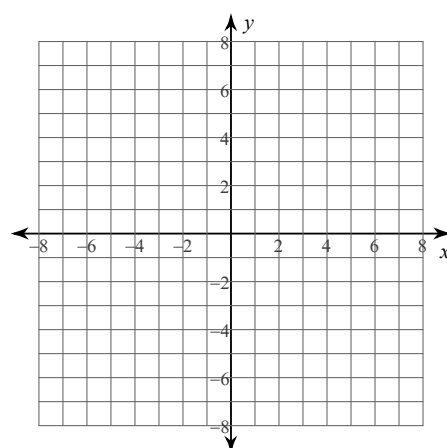
$$924) (x - 4)^2 + (y + 2)^2 = 9$$



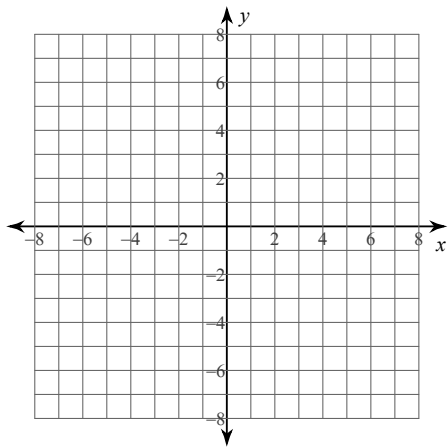
$$925) (x + 4)^2 + (y - 1)^2 = 9$$



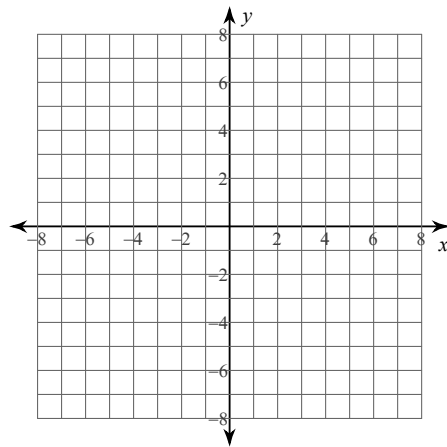
$$926) (x - \sqrt{7})^2 + (y + 2)^2 = 8$$



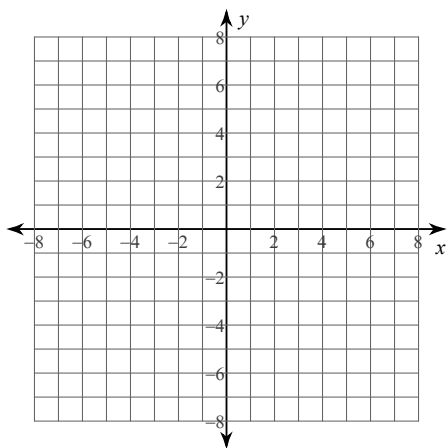
$$927) (x + 4)^2 + \left(y + \frac{5}{2}\right)^2 = 4$$



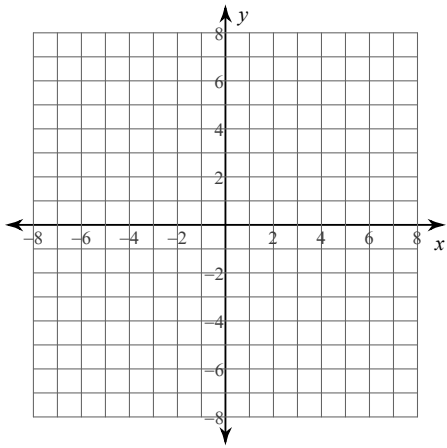
$$928) (x + 4)^2 + \left(y + \frac{5}{2}\right)^2 = 6$$



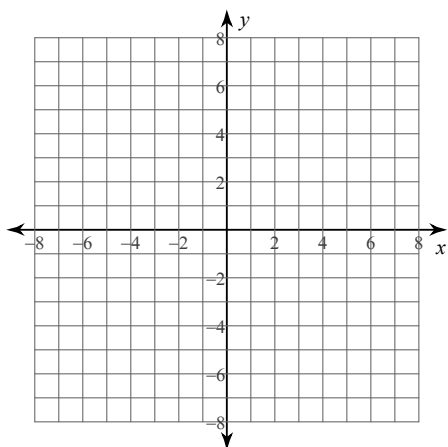
$$929) (x - 4)^2 + (y - \sqrt{15})^2 = 9$$



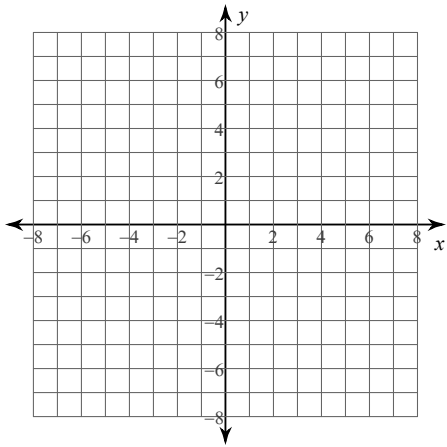
$$930) (x - 2)^2 + (y - 4)^2 = 5$$



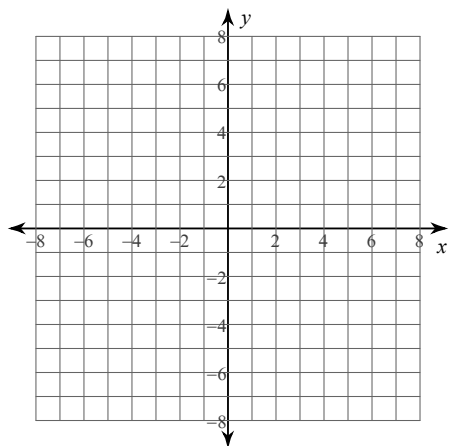
$$931) \left(x + \frac{1}{2}\right)^2 + (y - 1)^2 = 9$$



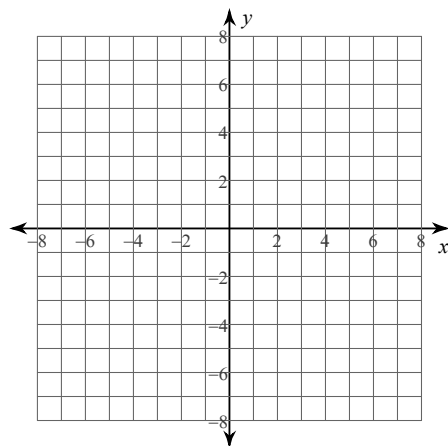
$$932) (x - 2)^2 + (y - 2)^2 = 4$$



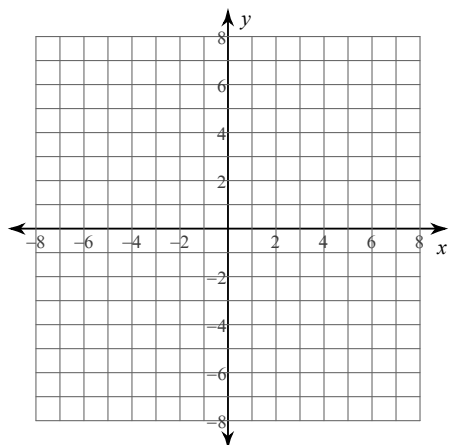
$$933) (x - 2)^2 + (y + 1)^2 = 8$$



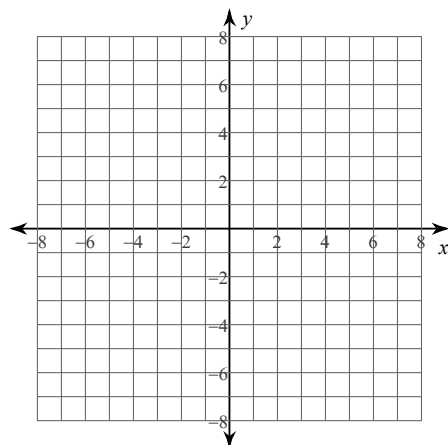
$$934) (x - 2)^2 + (y + 4)^2 = 4$$



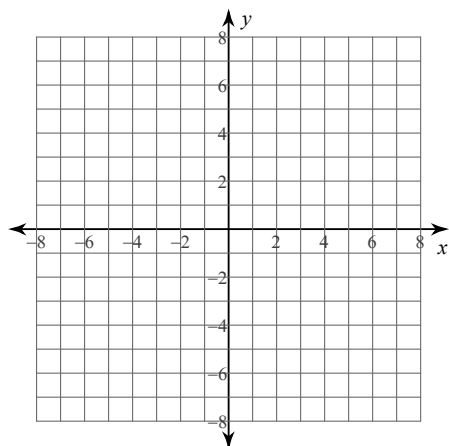
$$935) (x - 1)^2 + (y - 3)^2 = 15$$



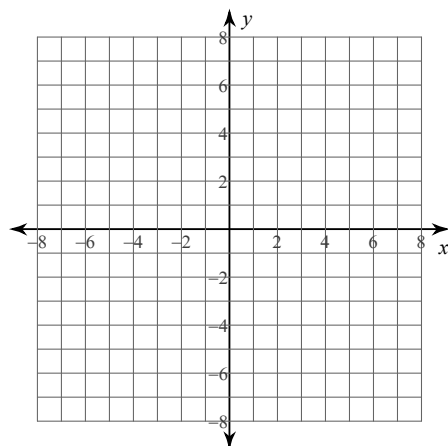
$$936) (x - 1)^2 + (y + 3)^2 = 10$$



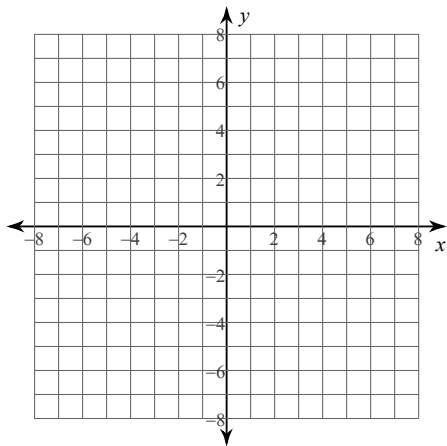
$$937) (x - 1)^2 + y^2 = 16$$



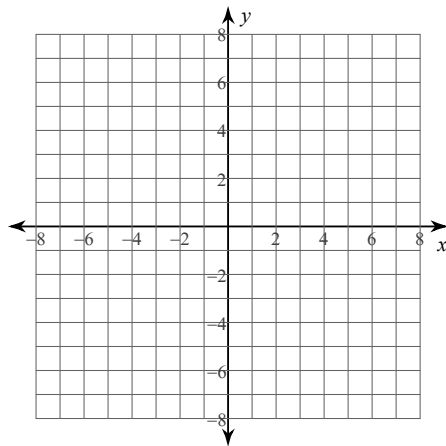
$$938) (x + 1)^2 + (y - 4)^2 = 9$$



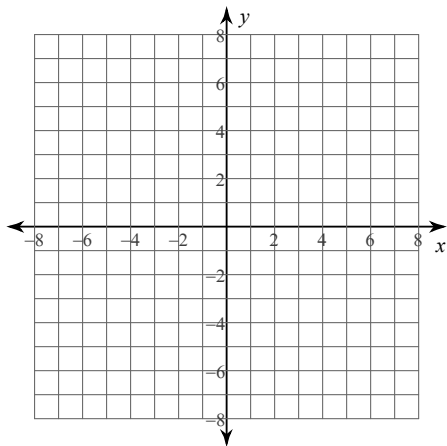
$$939) x^2 + (y + 3)^2 = 1$$



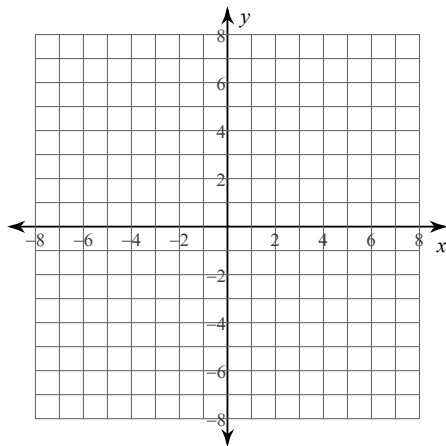
$$940) x^2 + (y + 1)^2 = 20$$



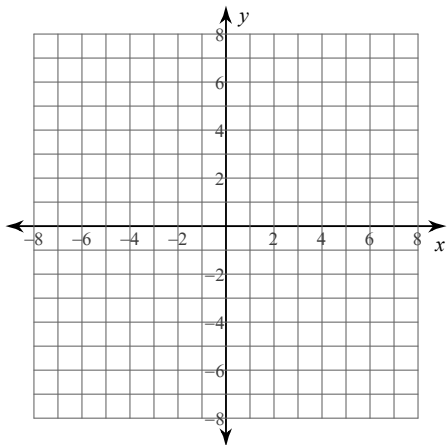
$$941) x^2 + (y - 2)^2 = 21$$



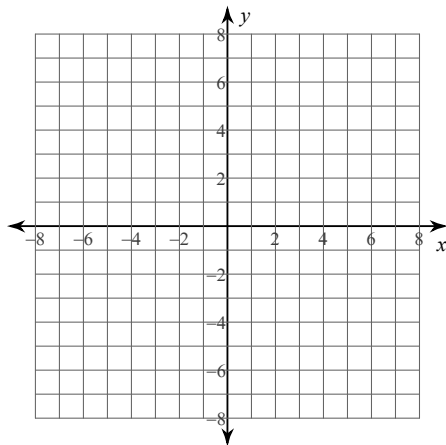
$$942) (x + 1)^2 + (y + 2)^2 = 16$$



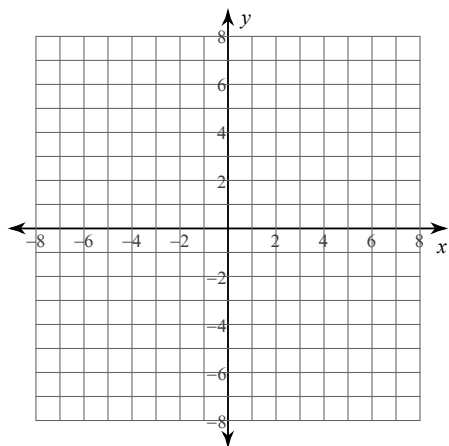
$$943) (x + 1)^2 + (y + 3)^2 = 9$$



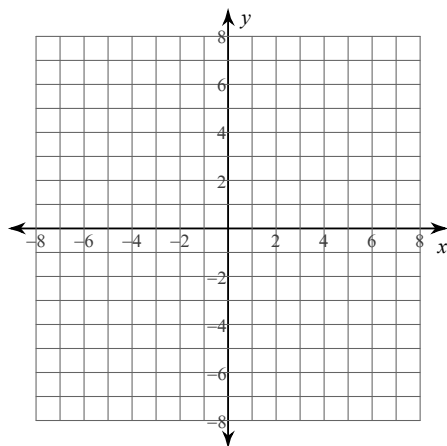
$$944) (x + 2)^2 + (y - 1)^2 = 1$$



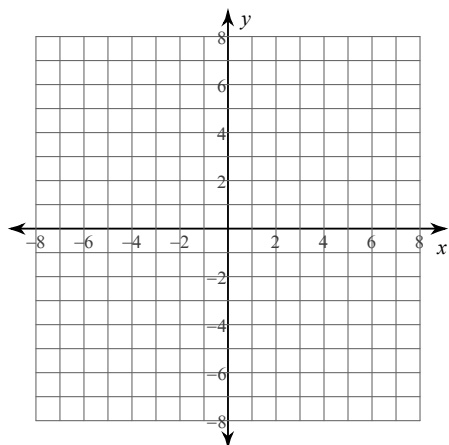
$$945) (x + 2)^2 + (y - 3)^2 = 14$$



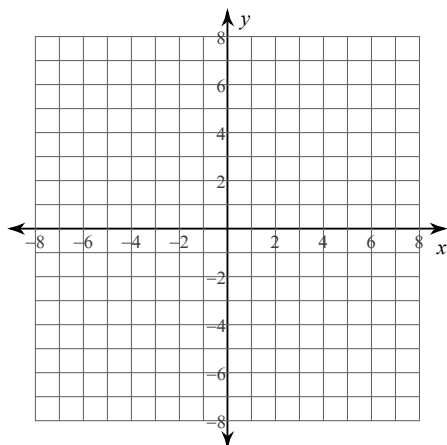
$$946) (x + 2)^2 + y^2 = 9$$



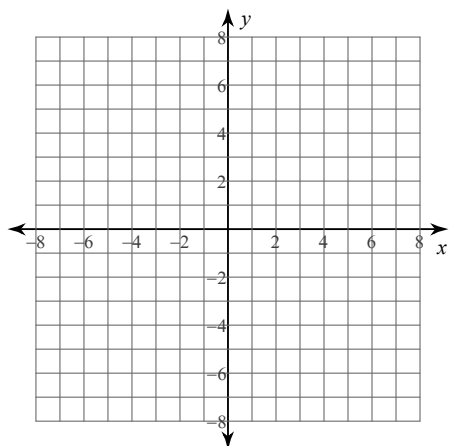
$$947) (x + 2)^2 + (y + 3)^2 = 14$$



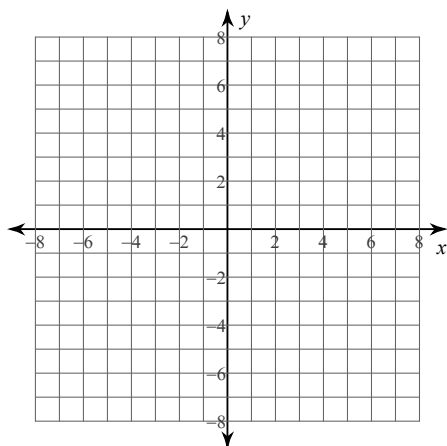
$$948) (x + 3)^2 + (y - 4)^2 = 4$$



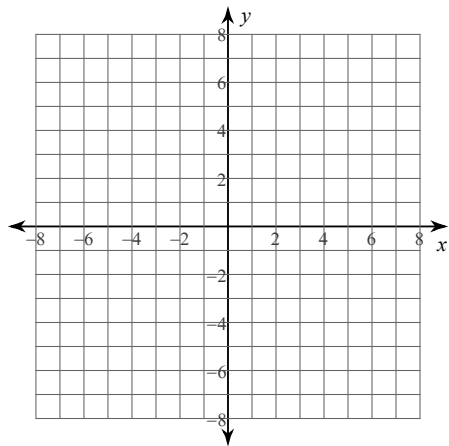
$$949) (x + 3)^2 + (y - 3)^2 = 4$$



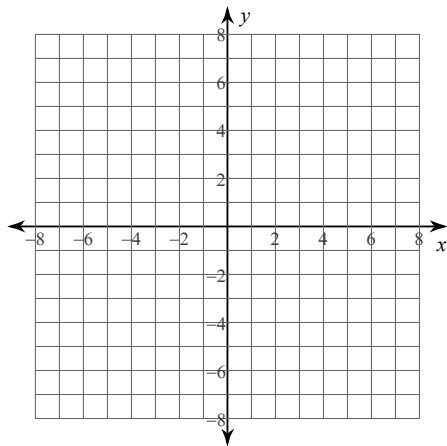
$$950) (x + 4)^2 + (y - 1)^2 = 1$$



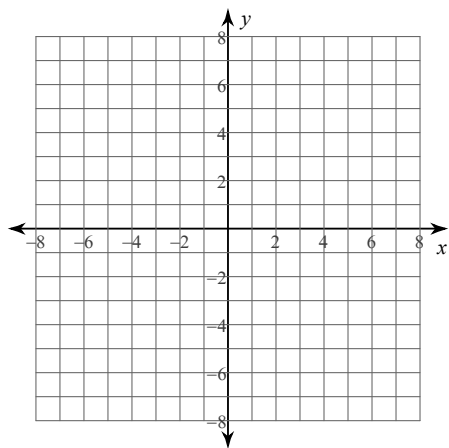
$$951) (x + 4)^2 + (y + 2)^2 = 4$$



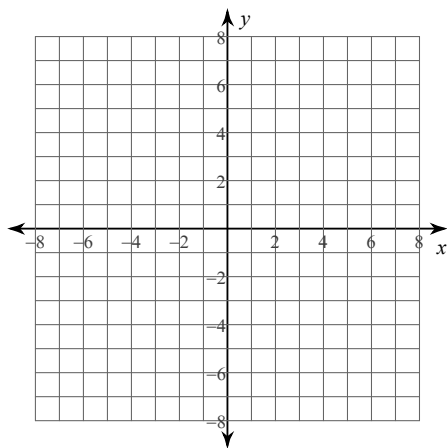
$$952) (x + 4)^2 + (y + 4)^2 = 7$$



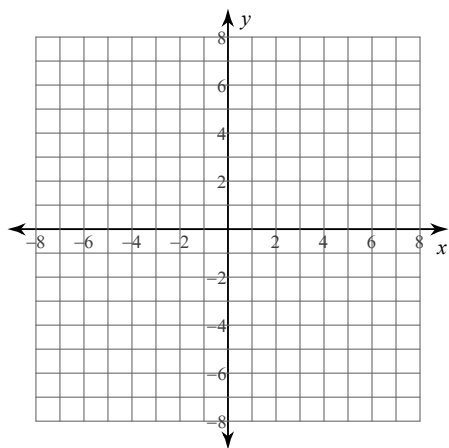
$$953) (x + 4)^2 + (y - 4)^2 = 1$$



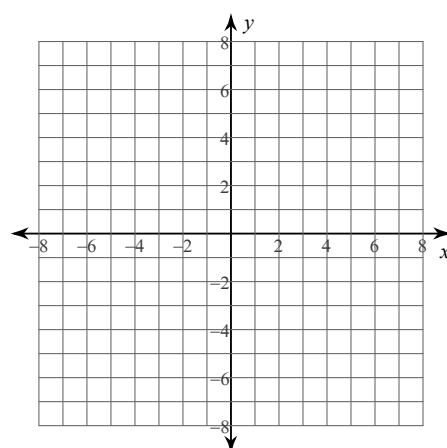
$$954) (x - 4)^2 + (y - 2)^2 = 4$$



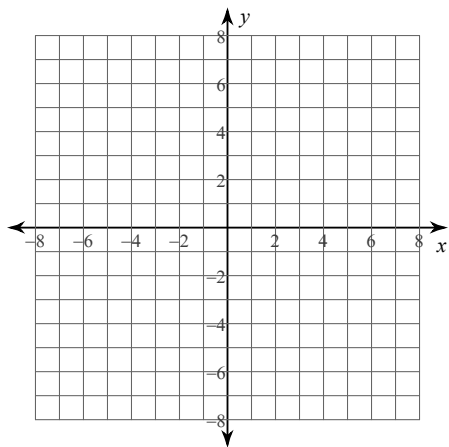
$$955) (x - 4)^2 + (y + 1)^2 = 4$$



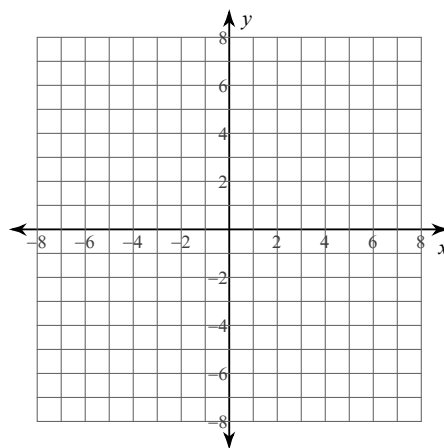
$$956) (x - \sqrt{11})^2 + (y - 1)^2 = 6$$



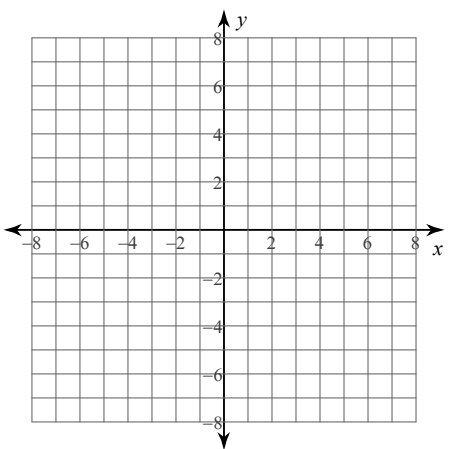
$$957) (x - \sqrt{6})^2 + (y - 1)^2 = 1$$



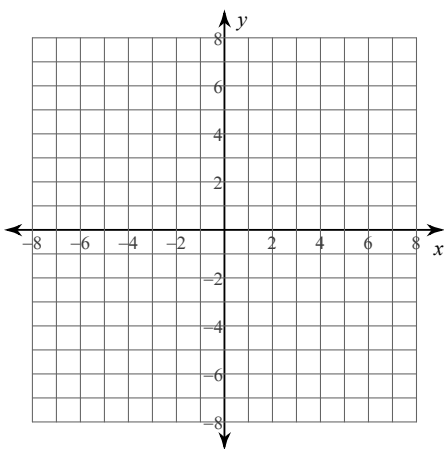
$$958) x^2 + \left(y - \frac{1}{2}\right)^2 = 3$$



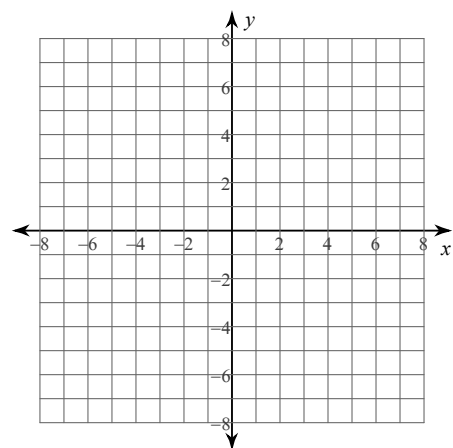
$$959) (x - 2)^2 + (y + 3)^2 = 16$$



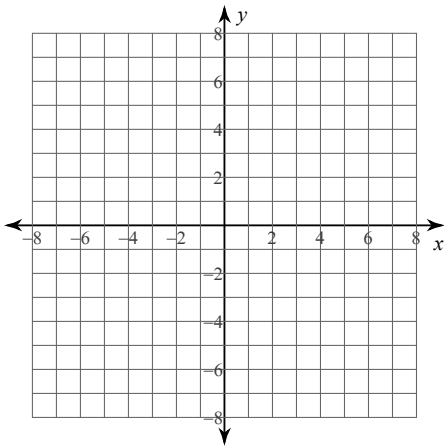
$$960) (x - 2)^2 + (y - 4)^2 = 9$$



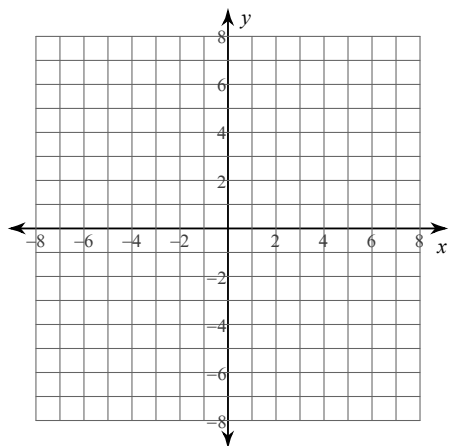
$$961) \left(x + \frac{1}{2}\right)^2 + \left(y - \frac{1}{2}\right)^2 = 20$$



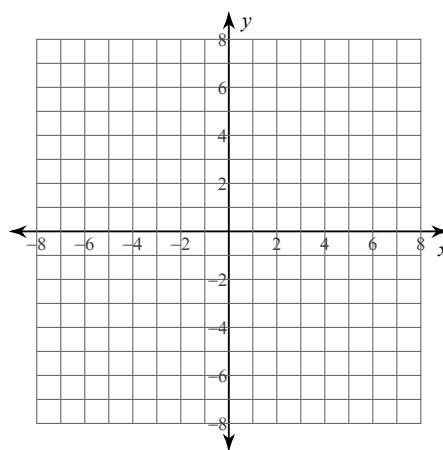
$$962) (x - 2)^2 + (y - 2)^2 = 1$$



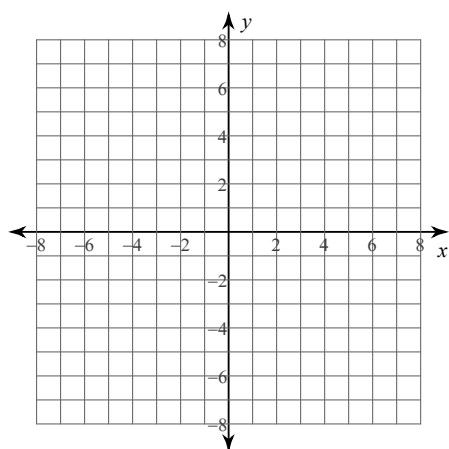
$$963) (x - 1)^2 + (y + 1)^2 = 25$$



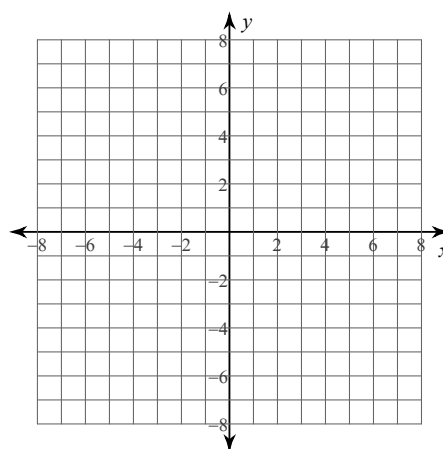
$$964) \left(x + \frac{7}{2}\right)^2 + (y - \sqrt{11})^2 = 4$$



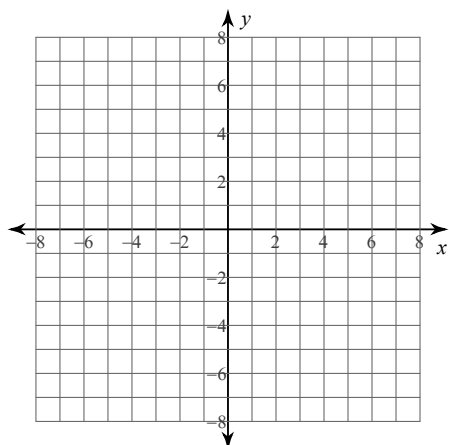
$$965) (x - 2)^2 + y^2 = 20$$



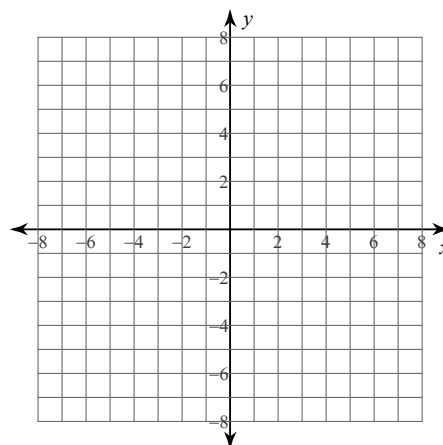
$$966) (x - 1)^2 + (y + 4)^2 = 1$$



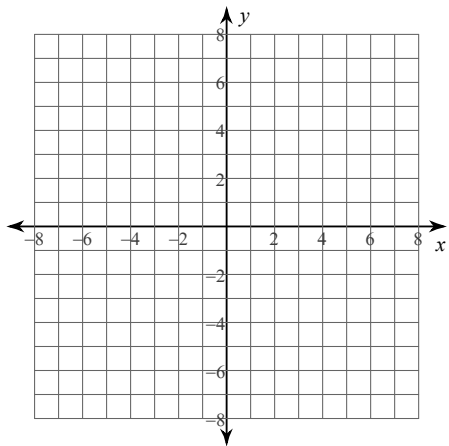
$$967) (x - 1)^2 + (y - 3)^2 = 1$$



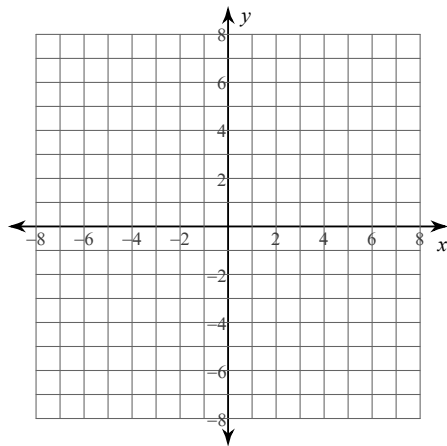
$$968) x^2 + (y - 1)^2 = 25$$



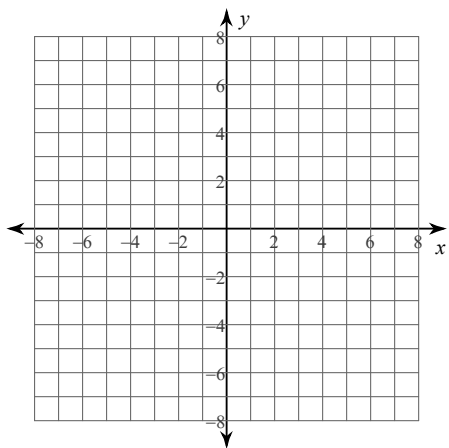
$$969) x^2 + (y + 3)^2 = 4$$



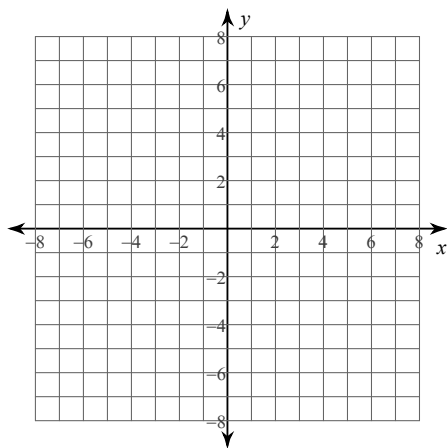
$$970) (x - 1)^2 + y^2 = 30$$



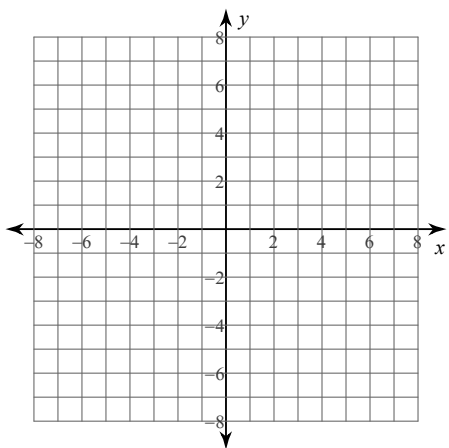
$$971) x^2 + (y - 4)^2 = 6$$



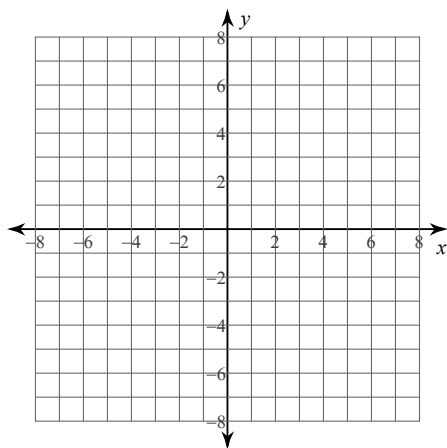
$$972) (x + 1)^2 + (y - 1)^2 = 1$$



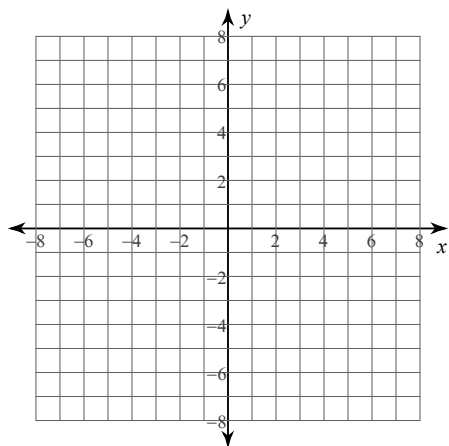
$$973) (x + 1)^2 + (y - 3)^2 = 6$$



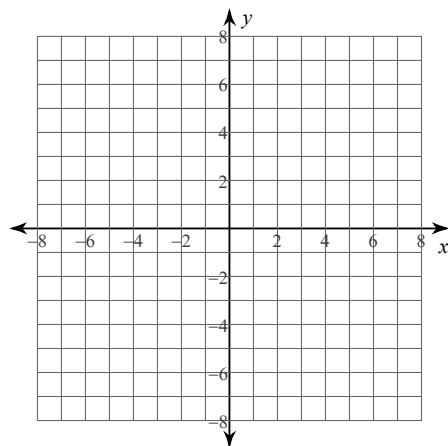
$$974) (x + 2)^2 + (y + 2)^2 = 11$$



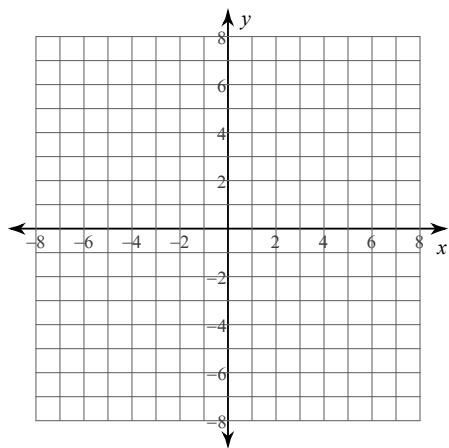
$$975) (x + 2)^2 + (y - 4)^2 = 9$$



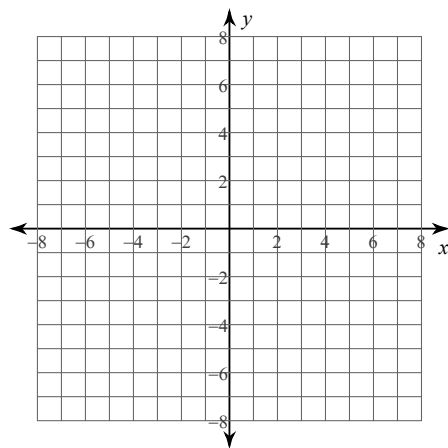
$$976) (x + 2)^2 + (y - 2)^2 = 16$$



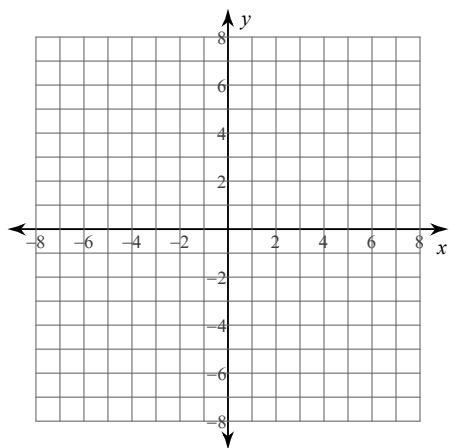
$$977) (x + 3)^2 + (y + 2)^2 = 16$$



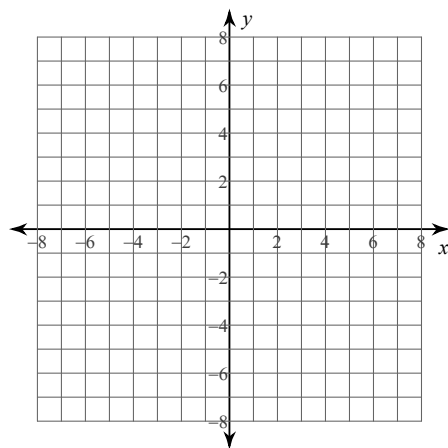
$$978) (x + 3)^2 + (y + 4)^2 = 1$$



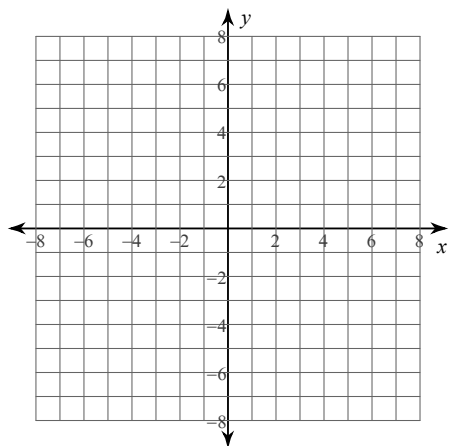
$$979) (x + 3)^2 + (y - 3)^2 = 9$$



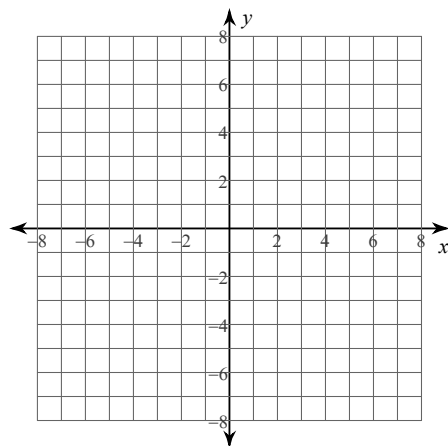
$$980) (x + 3)^2 + (y - 1)^2 = 16$$



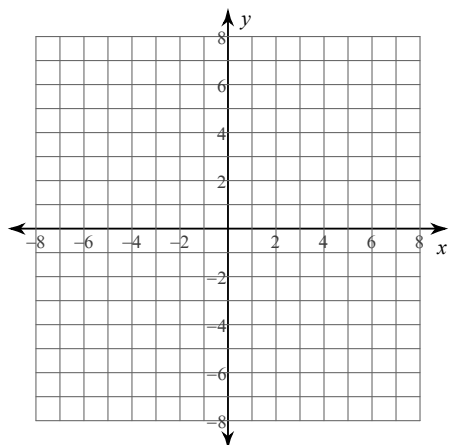
$$981) (x + 4)^2 + (y + 1)^2 = 9$$



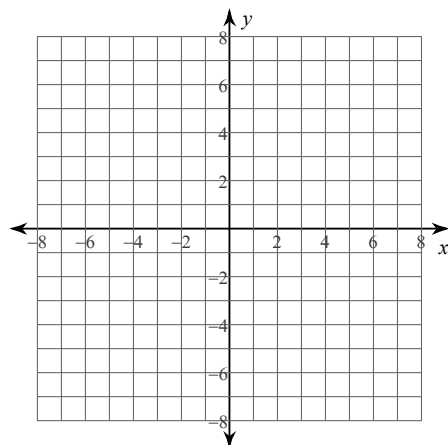
$$982) (x - 4)^2 + (y - 4)^2 = 9$$



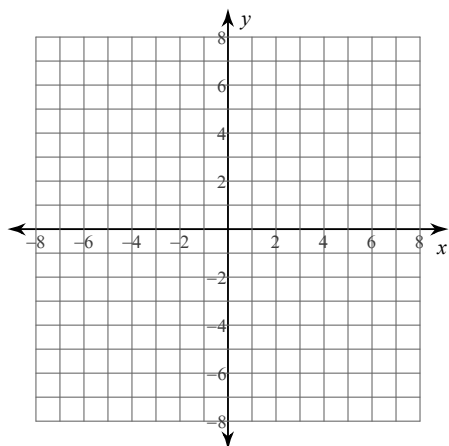
$$983) (x - 4)^2 + (y - 2)^2 = 9$$



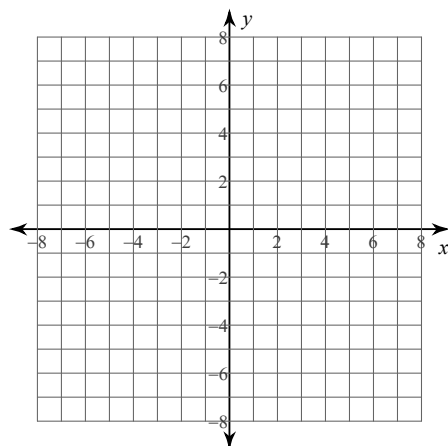
$$984) (x + 4)^2 + (y + 3)^2 = 8$$



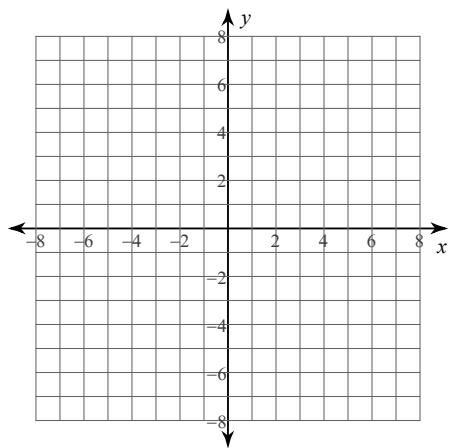
$$985) (x + 4)^2 + (y + 4)^2 = 4$$



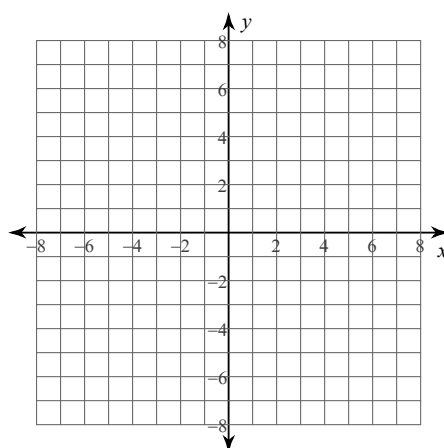
$$986) (x + 4)^2 + (y + 4)^2 = 9$$



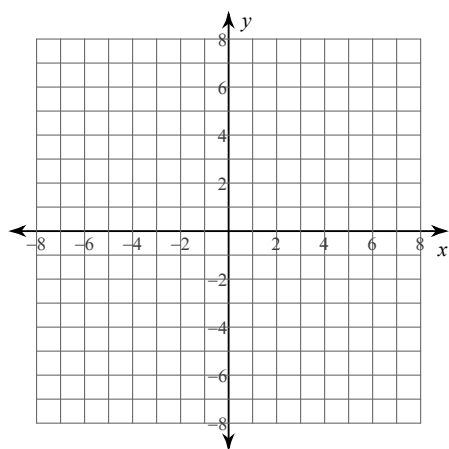
$$987) (x - 3)^2 + (y - 2)^2 = 15$$



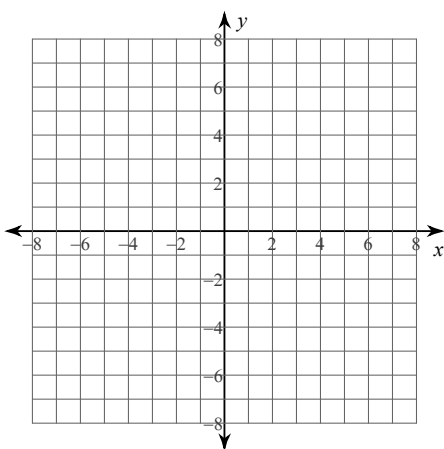
$$988) x^2 + (y - \sqrt{6})^2 = 4$$



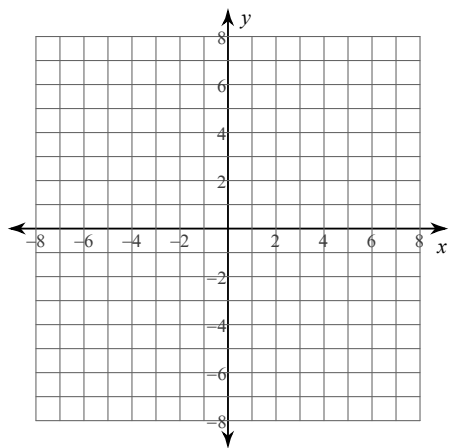
$$989) (x - 3)^2 + y^2 = 4$$



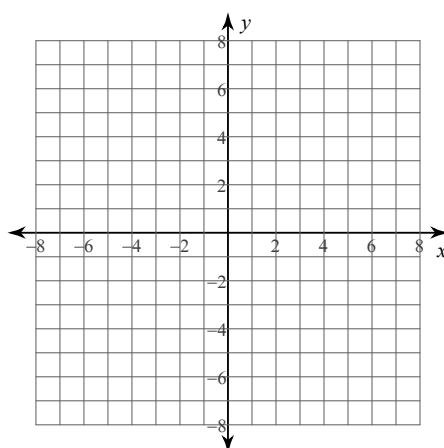
$$990) (x - 3)^2 + (y + 3)^2 = 4$$



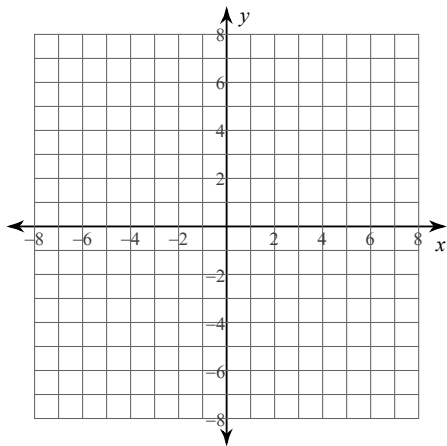
$$991) (x - 2)^2 + (y - 3)^2 = 4$$



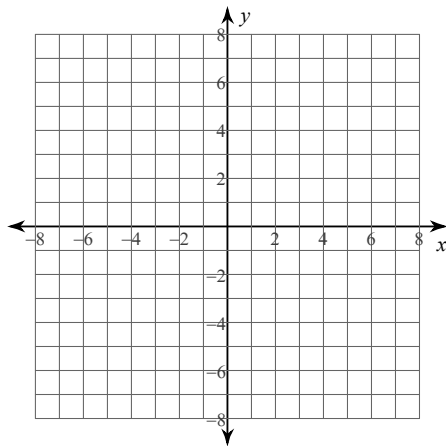
$$992) (x - \sqrt{3})^2 + (y - 4)^2 = 9$$



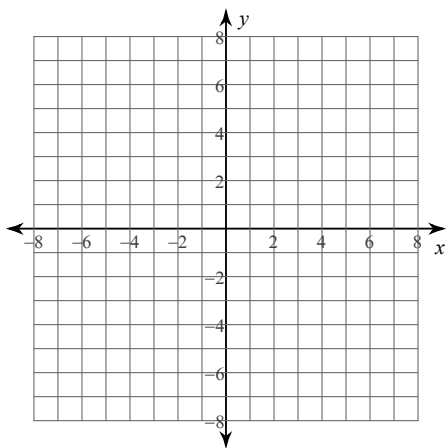
$$993) (x - 1)^2 + y^2 = 25$$



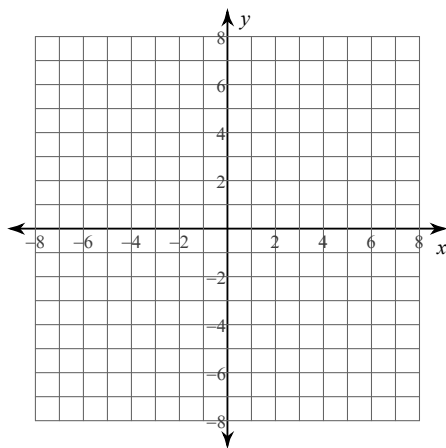
$$994) (x - 1)^2 + (y + 1)^2 = 4$$



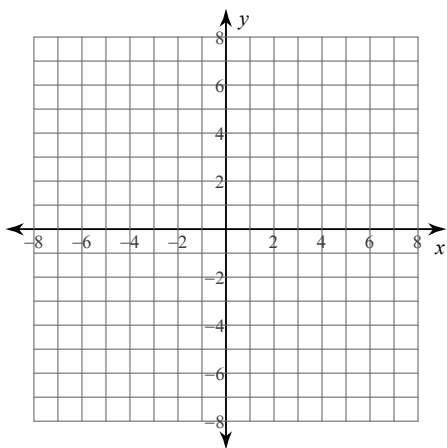
$$995) (x - 1)^2 + (y + 3)^2 = 9$$



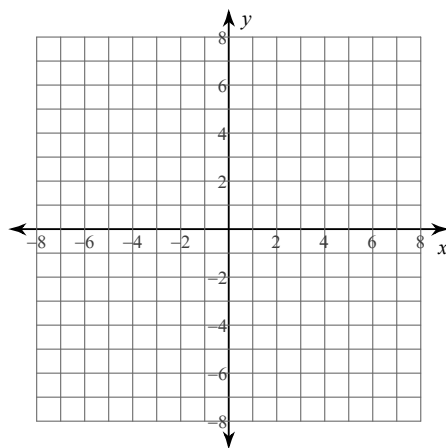
$$996) (x - 1)^2 + (y - 2)^2 = 9$$



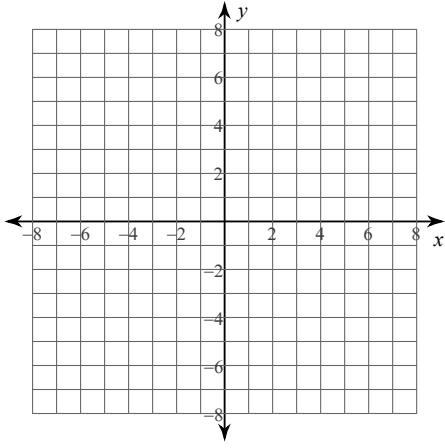
$$997) (x - 1)^2 + (y - 4)^2 = 9$$



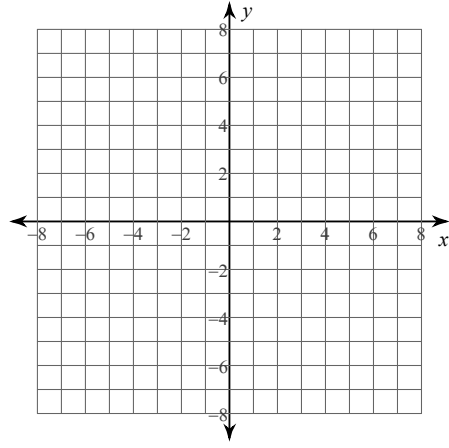
$$998) x^2 + y^2 = 11$$



999) $x^2 + (y + 2)^2 = 16$



1000) $(x + 1)^2 + (y + 4)^2 = 7$



Equations of the circle based on graph

Use the center and radius of the circle to make an equation for the circle

- 1) Center: $(-2, 11)$
Radius: 7

$$(x + 2)^2 + (y - 11)^2 = 49$$

- 2) Center: $(10, -15)$
Radius: 3

$$(x - 10)^2 + (y + 15)^2 = 9$$

- 3) Center: $(1, -1)$
Radius: $\sqrt{91}$

$$(x - 1)^2 + (y + 1)^2 = 91$$

- 4) Center: $(12, 6)$
Radius: 1

$$(x - 12)^2 + (y - 6)^2 = 1$$

- 5) Center: $(-11, -8)$
Radius: 6

$$(x + 11)^2 + (y + 8)^2 = 36$$

- 6) Center: $(-9, 13)$
Radius: $2\sqrt{5}$

$$(x + 9)^2 + (y - 13)^2 = 20$$

- 7) Center: $(2, -13)$
Radius: 3

$$(x - 2)^2 + (y + 13)^2 = 9$$

- 8) Center: $(14, -6)$
Radius: 4

$$(x - 14)^2 + (y + 6)^2 = 16$$

- 9) Center: $(-5, -11)$
Radius: 3

$$(x + 5)^2 + (y + 11)^2 = 9$$

- 10) Center: $(5, 9)$
Radius: 6

$$(x - 5)^2 + (y - 9)^2 = 36$$

- 11) Center: $(16, 15)$
Radius: $\sqrt{7}$

$$(x - 16)^2 + (y - 15)^2 = 7$$

- 12) Center: $(-7, 1)$
Radius: 2

$$(x + 7)^2 + (y - 1)^2 = 4$$

- 13) Center: $(-2, 10)$
Radius: 7

$$(x + 2)^2 + (y - 10)^2 = 49$$

- 14) Center: $(-15, 4)$
Radius: 3

$$(x + 15)^2 + (y - 4)^2 = 9$$

15) Center: $(9, -15)$
Radius: 2

$$(x - 9)^2 + (y + 15)^2 = 4$$

16) Center: $(7, -3)$
Radius: $3\sqrt{6}$

$$(x - 7)^2 + (y + 3)^2 = 54$$

17) Center: $(-1, -1)$
Radius: $\sqrt{139}$

$$(x + 1)^2 + (y + 1)^2 = 139$$

18) Center: $(11, 5)$
Radius: 5

$$(x - 11)^2 + (y - 5)^2 = 25$$

19) Center: $(-12, -8)$
Radius: 3

$$(x + 12)^2 + (y + 8)^2 = 9$$

20) Center: $(-11, 13)$
Radius: 6

$$(x + 11)^2 + (y - 13)^2 = 36$$

21) Center: $(2, -13)$
Radius: 5

$$(x - 2)^2 + (y + 13)^2 = 25$$

22) Center: $(13, -6)$
Radius: 3

$$(x - 13)^2 + (y + 6)^2 = 9$$

23) Center: $(-8, 1)$
Radius: $\sqrt{31}$

$$(x + 8)^2 + (y - 1)^2 = 31$$

24) Center: $(4, 8)$
Radius: 6

$$(x - 4)^2 + (y - 8)^2 = 36$$

25) Center: $(-6, -11)$
Radius: 6

$$(x + 6)^2 + (y + 11)^2 = 36$$

26) Center: $(15, 15)$
Radius: $\sqrt{5}$

$$(x - 15)^2 + (y - 15)^2 = 5$$

27) Center: $(-1, \frac{19}{2})$
Radius: 7

$$(x + 1)^2 + \left(y - \frac{19}{2}\right)^2 = 49$$

28) Center: $(-14, -9)$
Radius: 3

$$(x + 14)^2 + (y + 9)^2 = 9$$

29) Center: $(-2, -1)$
Radius: 7

$$(x + 2)^2 + (y + 1)^2 = 49$$

30) Center: $\left(2, -\frac{19}{2}\right)$

Radius: 3

$$(x - 2)^2 + \left(y + \frac{19}{2}\right)^2 = 9$$

31) Center: $\left(-\frac{7}{2}, \sqrt{37}\right)$

Radius: 4

$$\left(x + \frac{7}{2}\right)^2 + (y - \sqrt{37})^2 = 16$$

32) Center: (10, 6)

Radius: 2

$$(x - 10)^2 + (y - 6)^2 = 4$$

33) Center: (-11, 12)

Radius: 7

$$(x + 11)^2 + (y - 12)^2 = 49$$

34) Center: (1, -14)

Radius: 2

$$(x - 1)^2 + (y + 14)^2 = 4$$

35) Center: (12, -6)

Radius: 4

$$(x - 12)^2 + (y + 6)^2 = 16$$

36) Center: $(-9, 1)$

Radius: $4\sqrt{2}$

$$(x + 9)^2 + (y - 1)^2 = 32$$

37) Center: $\left(\frac{17}{2}, 4\right)$

Radius: $\sqrt{15}$

$$\left(x - \frac{17}{2}\right)^2 + (y - 4)^2 = 15$$

38) Center: (15, 15)

Radius: 1

$$(x - 15)^2 + (y - 15)^2 = 1$$

39) Center: $(3, 7)$

Radius: $\sqrt{94}$

$$(x - 3)^2 + (y - 7)^2 = 94$$

40) Center: $(-7, -11)$

Radius: $\sqrt{35}$

$$(x + 7)^2 + (y + 11)^2 = 35$$

41) Center: (5, -5)

Radius: 3

$$(x - 5)^2 + (y + 5)^2 = 9$$

42) Center: (-5, 10)

Radius: 5

$$(x + 5)^2 + (y - 10)^2 = 25$$

43) Center: (16, 3)

Radius: 1

$$(x - 16)^2 + (y - 3)^2 = 1$$

44) Center: $(7, -16)$
Radius: 3

$$(x - 7)^2 + (y + 16)^2 = 9$$

45) Center: $(-2, -2)$
Radius: 9

$$(x + 2)^2 + (y + 2)^2 = 81$$

46) Center: $(9, 5)$
Radius: 8

$$(x - 9)^2 + (y - 5)^2 = 64$$

47) Center: $(-14, -9)$
Radius: $\sqrt{19}$

$$(x + 14)^2 + (y + 9)^2 = 19$$

48) Center: $(-12, 13)$
Radius: 1

$$(x + 12)^2 + (y - 13)^2 = 1$$

49) Center: $(-1, -14)$
Radius: 5

$$(x + 1)^2 + (y + 14)^2 = 25$$

50) Center: $(12, -7)$
Radius: $\sqrt{3}$

$$(x - 12)^2 + (y + 7)^2 = 3$$

51) Center: $(-10, 1)$
Radius: 8

$$(x + 10)^2 + (y - 1)^2 = 64$$

52) Center: $(2, 8)$
Radius: $\sqrt{6}$

$$(x - 2)^2 + (y - 8)^2 = 6$$

53) Center: $(-8, -12)$
Radius: 5

$$(x + 8)^2 + (y + 12)^2 = 25$$

54) Center: $(13, 14)$
Radius: 3

$$(x - 13)^2 + (y - 14)^2 = 9$$

55) Center: $(3, -4)$
Radius: 8

$$(x - 3)^2 + (y + 4)^2 = 64$$

56) Center: $(16, 2)$
Radius: 1

$$(x - 16)^2 + (y - 2)^2 = 1$$

57) Center: $(-10, \sqrt{77})$
Radius: 5

$$(x + 10)^2 + (y - \sqrt{77})^2 = 25$$

58) Center: $(-7, 12)$
Radius: 6

$$(x + 7)^2 + (y - 12)^2 = 36$$

59) Center: $(-13, 12)$
Radius: 4

$$(x + 13)^2 + (y - 12)^2 = 16$$

60) Center: $(-1, -14)$
Radius: 2

$$(x + 1)^2 + (y + 14)^2 = 4$$

61) Center: $(16, -\frac{29}{2})$
Radius: 3

$$(x - 16)^2 + \left(y + \frac{29}{2}\right)^2 = 9$$

62) Center: $(-11, 0)$
Radius: 4

$$(x + 11)^2 + y^2 = 16$$

63) Center: $(10, -7)$
Radius: $3\sqrt{2}$

$$(x - 10)^2 + (y + 7)^2 = 18$$

64) Center: $(0, 7)$
Radius: 4

$$x^2 + (y - 7)^2 = 16$$

65) Center: $(12, 15)$
Radius: 3

$$(x - 12)^2 + (y - 15)^2 = 9$$

66) Center: $(\frac{21}{2}, -9)$
Radius: $\sqrt{55}$

$$\left(x - \frac{21}{2}\right)^2 + (y + 9)^2 = 55$$

67) Center: $(-8, -12)$
Radius: 3

$$(x + 8)^2 + (y + 12)^2 = 9$$

68) Center: $(\sqrt{86}, \frac{9}{2})$
Radius: 7

$$(x - \sqrt{86})^2 + \left(y - \frac{9}{2}\right)^2 = 49$$

69) Center: $(3, -5)$
Radius: $\sqrt{58}$

$$(x - 3)^2 + (y + 5)^2 = 58$$

70) Center: $(15, 2)$
Radius: 2

$$(x - 15)^2 + (y - 2)^2 = 4$$

71) Center: $(-7, 9)$
Radius: $\sqrt{79}$

$$(x + 7)^2 + (y - 9)^2 = 79$$

72) Center: $(5, 16)$
Radius: $\sqrt{7}$

$$(x - 5)^2 + (y - 16)^2 = 7$$

73) Center: $(-16, -10)$
Radius: 2

$$(x + 16)^2 + (y + 10)^2 = 4$$

74) Center: $(-4, -2)$
Radius: 8

$$(x + 4)^2 + (y + 2)^2 = 64$$

75) Center: $(7, 4)$
Radius: 7

$$(x - 7)^2 + (y - 4)^2 = 49$$

76) Center: $(-14, 11)$
Radius: 2

$$(x + 14)^2 + (y - 11)^2 = 4$$

77) Center: $(-3, -14)$
Radius: 4

$$(x + 3)^2 + (y + 14)^2 = 16$$

78) Center: $(9, -7)$
Radius: 5

$$(x - 9)^2 + (y + 7)^2 = 25$$

79) Center: $(-11, -1)$
Radius: 8

$$(x + 11)^2 + (y + 1)^2 = 64$$

80) Center: $(12, 14)$
Radius: 3

$$(x - 12)^2 + (y - 14)^2 = 9$$

81) Center: $(-10, -12)$
Radius: 7

$$(x + 10)^2 + (y + 12)^2 = 49$$

82) Center: $(2, -5)$
Radius: 8

$$(x - 2)^2 + (y + 5)^2 = 64$$

83) Center: $(13, 2)$
Radius: 3

$$(x - 13)^2 + (y - 2)^2 = 9$$

84) Center: $(-7, 9)$
Radius: 6

$$(x + 7)^2 + (y - 9)^2 = 36$$

85) Center: $(4, 16)$
Radius: $\sqrt{2}$

$$(x - 4)^2 + (y - 16)^2 = 2$$

86) Center: $(16, -10)$
Radius: 2

$$(x - 16)^2 + (y + 10)^2 = 4$$

87) Center: $(7, 7)$
Radius: $\sqrt{71}$

$$(x - 7)^2 + (y - 7)^2 = 71$$

88) Center: $(9, -8)$
Radius: 8

$$(x - 9)^2 + (y + 8)^2 = 64$$

89) Center: $(-13, 0)$
Radius: 5

$$(x + 13)^2 + y^2 = 25$$

90) Center: $(-1, 6)$
Radius: 7

$$(x + 1)^2 + (y - 6)^2 = 49$$

91) Center: $(-5, \sqrt{246})$
Radius: 3

$$(x + 5)^2 + (y - \sqrt{246})^2 = 9$$

92) Center: $(10, 13)$
Radius: 3

$$(x - 10)^2 + (y - 13)^2 = 9$$

93) Center: $(-11, -12)$
Radius: $\sqrt{5}$

$$(x + 11)^2 + (y + 12)^2 = 5$$

94) Center: $(13, 1)$
Radius: $\sqrt{21}$

$$(x - 13)^2 + (y - 1)^2 = 21$$

95) Center: $(1, -5)$
Radius: 4

$$(x - 1)^2 + (y + 5)^2 = 16$$

96) Center: $(3, 16)$
Radius: 2

$$(x - 3)^2 + (y - 16)^2 = 4$$

97) Center: $(-9, 9)$
Radius: 8

$$(x + 9)^2 + (y - 9)^2 = 64$$

98) Center: $(15, -10)$
Radius: 2

$$(x - 15)^2 + (y + 10)^2 = 4$$

99) Center: $(-\frac{5}{2}, 13)$
Radius: 3

$$\left(x + \frac{5}{2}\right)^2 + (y - 13)^2 = 9$$

100) Center: $(\frac{9}{2}, -6)$
Radius: 8

$$\left(x - \frac{9}{2}\right)^2 + (y + 6)^2 = 64$$

Use the center and area to make an equation for the circle

101) Center: $(6, 4)$
Area: 34π

$$(x - 6)^2 + (y - 4)^2 = 34$$

102) Center: $(-7, -3)$
Area: π

$$(x + 7)^2 + (y + 3)^2 = 1$$

103) Center: $(-16, 11)$
Area: 4π

$$(x + 16)^2 + (y - 11)^2 = 4$$

104) Center: $(-4, -16)$
Area: π

$$(x + 4)^2 + (y + 16)^2 = 1$$

105) Center: $(7, -8)$
Area: 36π

$$(x - 7)^2 + (y + 8)^2 = 36$$

106) Center: $(-14, -1)$
Area: 9π

$$(x + 14)^2 + (y + 1)^2 = 9$$

107) Center: $(-2, 6)$
Area: 100π

$$(x + 2)^2 + (y - 6)^2 = 100$$

108) Center: $(10, 13)$
Area: 9π

$$(x - 10)^2 + (y - 13)^2 = 9$$

109) Center: $(0, -6)$
Area: 133π

$$x^2 + (y + 6)^2 = 133$$

110) Center: $(-12, -13)$
Area: 4π

$$(x + 12)^2 + (y + 13)^2 = 4$$

111) Center: $(12, 2)$
Area: 9π

$$(x - 12)^2 + (y - 2)^2 = 9$$

112) Center: $(3, 15)$
Area: 9π

$$(x - 3)^2 + (y - 15)^2 = 9$$

113) Center: $(-10, 8)$
Area: 61π

$$(x + 10)^2 + (y - 8)^2 = 61$$

114) Center: $(14, -10)$
Area: 25π

$$(x - 14)^2 + (y + 10)^2 = 25$$

115) Center: $(-7, -3)$
Area: 4π

$$(x + 7)^2 + (y + 3)^2 = 4$$

116) Center: $(4, 3)$
Area: 25π

$$(x - 4)^2 + (y - 3)^2 = 25$$

117) Center: $(16, 11)$
Area: 3π

$$(x - 16)^2 + (y - 11)^2 = 3$$

118) Center: $(12, 12)$
Area: 16π

$$(x - 12)^2 + (y - 12)^2 = 16$$

119) Center: (9, 13)
Area: 25π

$$(x - 9)^2 + (y - 13)^2 = 25$$

120) Center: (-13, -14)
Area: 25π

$$(x + 13)^2 + (y + 14)^2 = 25$$

121) Center: (-1, -6)
Area: 114π

$$(x + 1)^2 + (y + 6)^2 = 114$$

122) Center: (11, 1)
Area: π

$$(x - 11)^2 + (y - 1)^2 = 1$$

123) Center: (-10, 8)
Area: 25π

$$(x + 10)^2 + (y - 8)^2 = 25$$

124) Center: (1, 15)
Area: 9π

$$(x - 1)^2 + (y - 15)^2 = 9$$

125) Center: (13, -11)
Area: 16π

$$(x - 13)^2 + (y + 11)^2 = 16$$

126) Center: (-9, -4)
Area: 47π

$$(x + 9)^2 + (y + 4)^2 = 47$$

127) Center: $\left(-14, -\frac{15}{2}\right)$
Area: 4π

$$\left(x + 14\right)^2 + \left(y + \frac{15}{2}\right)^2 = 4$$

128) Center: $\left(-\frac{23}{2}, 6\right)$
Area: 16π

$$\left(x + \frac{23}{2}\right)^2 + (y - 6)^2 = 16$$

129) Center: (3, 4)
Area: 25π

$$(x - 3)^2 + (y - 4)^2 = 25$$

130) Center: (15, 10)
Area: 9π

$$(x - 15)^2 + (y - 10)^2 = 9$$

131) Center: (-6, -16)
Area: π

$$(x + 6)^2 + (y + 16)^2 = 1$$

132) Center: (6, -8)
Area: 16π

$$(x - 6)^2 + (y + 8)^2 = 16$$

133) Center: (-16, -2)
Area: 9π

$$(x + 16)^2 + (y + 2)^2 = 9$$

134) Center: (-4, 5)
Area: 9π

$$(x + 4)^2 + (y - 5)^2 = 9$$

135) Center: $(-13, -13)$
Area: 25π

$$(x + 13)^2 + (y + 13)^2 = 25$$

136) Center: $(7, 12)$
Area: 6π

$$(x - 7)^2 + (y - 12)^2 = 6$$

137) Center: $(-2, -7)$
Area: 144π

$$(x + 2)^2 + (y + 7)^2 = 144$$

138) Center: $(0, 15)$
Area: 16π

$$x^2 + (y - 15)^2 = 16$$

139) Center: $(10, 0)$
Area: 16π

$$(x - 10)^2 + y^2 = 16$$

140) Center: $(-12, 8)$
Area: 4π

$$(x + 12)^2 + (y - 8)^2 = 4$$

141) Center: $(12, -12)$
Area: 16π

$$(x - 12)^2 + (y + 12)^2 = 16$$

142) Center: $(-9, -4)$
Area: 79π

$$(x + 9)^2 + (y + 4)^2 = 79$$

143) Center: $(3, 3)$
Area: 186π

$$(x - 3)^2 + (y - 3)^2 = 186$$

144) Center: $(14, 10)$
Area: 25π

$$(x - 14)^2 + (y - 10)^2 = 25$$

145) Center: $(-7, -16)$
Area: 2π

$$(x + 7)^2 + (y + 16)^2 = 2$$

146) Center: $(4, -9)$
Area: 81π

$$(x - 4)^2 + (y + 9)^2 = 81$$

147) Center: $\left(-\frac{17}{2}, \frac{31}{2}\right)$
Area: 4π

$$\left(x + \frac{17}{2}\right)^2 + \left(y - \frac{31}{2}\right)^2 = 4$$

148) Center: $(2\sqrt{15}, 1)$
Area: 9π

$$(x - 2\sqrt{15})^2 + (y - 1)^2 = 9$$

149) Center: $\left(\frac{17}{2}, -5\right)$

Area: 25π

$$\left(x - \frac{17}{2}\right)^2 + (y + 5)^2 = 25$$

150) Center: $(8, 0)$

Area: 4π

$$(x - 8)^2 + y^2 = 4$$

151) Center: $(-12, 7)$

Area: 9π

$$(x + 12)^2 + (y - 7)^2 = 9$$

152) Center: $(0, 14)$

Area: 25π

$$x^2 + (y - 14)^2 = 25$$

153) Center: $(11, -11)$

Area: 56π

$$(x - 11)^2 + (y + 11)^2 = 56$$

154) Center: $\left(\frac{11}{2}, \frac{29}{2}\right)$

Area: 10π

$$\left(x - \frac{11}{2}\right)^2 + \left(y - \frac{29}{2}\right)^2 = 10$$

155) Center: $(-10, -5)$

Area: 9π

$$(x + 10)^2 + (y + 5)^2 = 9$$

156) Center: $(1, 2)$

Area: 223π

$$(x - 1)^2 + (y - 2)^2 = 223$$

157) Center: $(13, 10)$

Area: 9π

$$(x - 13)^2 + (y - 10)^2 = 9$$

158) Center: $(4, -10)$

Area: 36π

$$(x - 4)^2 + (y + 10)^2 = 36$$

159) Center: $(-8, -16)$

Area: 4π

$$(x + 8)^2 + (y + 16)^2 = 4$$

160) Center: $(15, -2)$

Area: 16π

$$(x - 15)^2 + (y + 2)^2 = 16$$

161) Center: $(-6, 5)$

Area: 41π

$$(x + 6)^2 + (y - 5)^2 = 41$$

162) Center: $(5, 12)$

Area: 25π

$$(x - 5)^2 + (y - 12)^2 = 25$$

163) Center: $(-16, -14)$
Area: π

$$(x + 16)^2 + (y + 14)^2 = 1$$

164) Center: $(8, 0)$
Area: 25π

$$(x - 8)^2 + y^2 = 25$$

165) Center: $(-3, -7)$
Area: 49π

$$(x + 3)^2 + (y + 7)^2 = 49$$

166) Center: $(-13, 7)$
Area: 3π

$$(x + 13)^2 + (y - 7)^2 = 3$$

167) Center: $(-2, -14)$
Area: 9π

$$(x + 2)^2 + (y - 14)^2 = 9$$

168) Center: $(-12, -5)$
Area: 49π

$$(x + 12)^2 + (y + 5)^2 = 49$$

169) Center: $(10, -12)$
Area: 41π

$$(x - 10)^2 + (y + 12)^2 = 41$$

170) Center: $(1, 2)$
Area: 25π

$$(x - 1)^2 + (y - 2)^2 = 25$$

171) Center: $(12, 9)$
Area: π

$$(x - 12)^2 + (y - 9)^2 = 1$$

172) Center: $(-9, 16)$
Area: 9π

$$(x + 9)^2 + (y - 16)^2 = 9$$

173) Center: $(2, -9)$
Area: 65π

$$(x - 2)^2 + (y + 9)^2 = 65$$

174) Center: $(14, -3)$
Area: 4π

$$(x - 14)^2 + (y + 3)^2 = 4$$

175) Center: $(-6, 4)$
Area: 36π

$$(x + 6)^2 + (y - 4)^2 = 36$$

176) Center: $(5, 12)$
Area: 31π

$$(x - 5)^2 + (y - 12)^2 = 31$$

177) Center: $\left(-\frac{31}{2}, -4\right)$
Area: 9π

$$\left(x + \frac{31}{2}\right)^2 + (y + 4)^2 = 9$$

178) Center: $\left(\frac{21}{2}, -\frac{27}{2}\right)$
Area: 16π

$$\left(x - \frac{21}{2}\right)^2 + \left(y + \frac{27}{2}\right)^2 = 16$$

179) Center: $(\sqrt{229}, -10)$

Area: 9π

$$(x - \sqrt{229})^2 + (y + 10)^2 = 9$$

180) Center: $(-2, 13)$

Area: 26π

$$(x + 2)^2 + (y - 13)^2 = 26$$

181) Center: $(-\frac{13}{2}, \sqrt{73})$

Area: 25π

$$(x + \frac{13}{2})^2 + (y - \sqrt{73})^2 = 25$$

182) Center: $(9, -12)$

Area: 16π

$$(x - 9)^2 + (y + 12)^2 = 16$$

183) Center: $(-12, -5)$

Area: 33π

$$(x + 12)^2 + (y + 5)^2 = 33$$

184) Center: $(-1, 2)$

Area: 225π

$$(x + 1)^2 + (y - 2)^2 = 225$$

185) Center: $(11, 8)$

Area: 25π

$$(x - 11)^2 + (y - 8)^2 = 25$$

186) Center: $(-10, 16)$

Area: 9π

$$(x + 10)^2 + (y - 16)^2 = 9$$

187) Center: $(2, -10)$

Area: 4π

$$(x - 2)^2 + (y + 10)^2 = 4$$

188) Center: $(14, -3)$

Area: 19π

$$(x - 14)^2 + (y + 3)^2 = 19$$

189) Center: $(-8, 4)$

Area: 16π

$$(x + 8)^2 + (y - 4)^2 = 16$$

190) Center: $(4, 11)$

Area: 9π

$$(x - 4)^2 + (y - 11)^2 = 9$$

191) Center: $(15, -15)$

Area: 4π

$$(x - 15)^2 + (y + 15)^2 = 4$$

192) Center: $(-6, -7)$

Area: 64π

$$(x + 6)^2 + (y + 7)^2 = 64$$

193) Center: $(6, -1)$

Area: 49π

$$(x - 6)^2 + (y + 1)^2 = 49$$

194) Center: $(-15, 6)$

Area: π

$$(x + 15)^2 + (y - 6)^2 = 1$$

195) Center: $(-4, 14)$
Area: 10π

$$(x + 4)^2 + (y - 14)^2 = 10$$

196) Center: $(8, -13)$
Area: 9π

$$(x - 8)^2 + (y + 13)^2 = 9$$

197) Center: $(-13, -6)$
Area: 16π

$$(x + 13)^2 + (y + 6)^2 = 16$$

198) Center: $(-2, 2)$
Area: 100π

$$(x + 2)^2 + (y - 2)^2 = 100$$

199) Center: $(\sqrt{222}, -\frac{25}{2})$
Area: 4π

$$(x - \sqrt{222})^2 + (y + \frac{25}{2})^2 = 4$$

200) Center: $(-\frac{25}{2}, \frac{19}{2})$
Area: 9π

$$(x + \frac{25}{2})^2 + (y - \frac{19}{2})^2 = 9$$

Use the center and circumference to make an equation for the circle

201) Center: $(11, 9)$
Circumference: 16π

$$(x - 11)^2 + (y - 9)^2 = 64$$

202) Center: $(1, -10)$
Circumference: 6π

$$(x - 1)^2 + (y + 10)^2 = 9$$

203) Center: $(12, -3)$
Circumference: $2\pi\sqrt{39}$

$$(x - 12)^2 + (y + 3)^2 = 39$$

204) Center: $(-11, 15)$
Circumference: $2\pi\sqrt{15}$

$$(x + 11)^2 + (y - 15)^2 = 15$$

205) Center: $(-9, 4)$
Circumference: 12π

$$(x + 9)^2 + (y - 4)^2 = 36$$

206) Center: $(2, 10)$
Circumference: 6π

$$(x - 2)^2 + (y - 10)^2 = 9$$

207) Center: $(15, -15)$
Circumference: 8π

$$(x - 15)^2 + (y + 15)^2 = 16$$

208) Center: $(-7, -8)$
Circumference: 2π

$$(x + 7)^2 + (y + 8)^2 = 1$$

209) Center: $(2\sqrt{47}, 14)$
Circumference: 10π

$$(x - 2\sqrt{47})^2 + (y - 14)^2 = 25$$

210) Center: $(4, \sqrt{77})$
Circumference: 20π

$$(x - 4)^2 + (y - \sqrt{77})^2 = 100$$

211) Center: $(-2, 1)$
Circumference: 24π

$$(x + 2)^2 + (y - 1)^2 = 144$$

212) Center: $(9, 8)$
Circumference: 8π

$$(x - 9)^2 + (y - 8)^2 = 16$$

213) Center: $(3\sqrt{3}, -5)$
Circumference: 6π

$$(x - 3\sqrt{3})^2 + (y + 5)^2 = 9$$

214) Center: $(-12, 16)$
Circumference: 2π

$$(x + 12)^2 + (y - 16)^2 = 1$$

215) Center: $(-1, -11)$
Circumference: $2\pi\sqrt{62}$

$$(x + 1)^2 + (y + 11)^2 = 62$$

216) Center: $(12, -4)$
Circumference: 12π

$$(x - 12)^2 + (y + 4)^2 = 36$$

217) Center: $(-10, 4)$
Circumference: $2\pi\sqrt{58}$

$$(x + 10)^2 + (y - 4)^2 = 58$$

218) Center: $(14, -16)$
Circumference: 4π

$$(x - 14)^2 + (y + 16)^2 = 4$$

219) Center: $(2, 11)$
Circumference: 4π

$$(x - 2)^2 + (y - 11)^2 = 4$$

220) Center: $(4, -1)$
Circumference: 22π

$$(x - 4)^2 + (y + 1)^2 = 121$$

221) Center: $(-8, -9)$
Circumference: 10π

$$(x + 8)^2 + (y + 9)^2 = 25$$

222) Center: $(16, 6)$
Circumference: $4\pi\sqrt{2}$

$$(x - 16)^2 + (y - 6)^2 = 8$$

223) Center: $(-5, 12)$
Circumference: 10π

$$(x + 5)^2 + (y - 12)^2 = 25$$

224) Center: $(6, -13)$
Circumference: 4π

$$(x - 6)^2 + (y + 13)^2 = 4$$

225) Center: $\left(7, -\frac{3}{2}\right)$
Circumference: 22π

$$(x - 7)^2 + \left(y + \frac{3}{2}\right)^2 = 121$$

226) Center: $(-15, -6)$
Circumference: 4π

$$(x + 15)^2 + (y + 6)^2 = 4$$

227) Center: $(-4, 1)$
Circumference: 18π

$$(x + 4)^2 + (y - 1)^2 = 81$$

228) Center: $(-13, 15)$
Circumference: 4π

$$(x + 13)^2 + (y - 15)^2 = 4$$

229) Center: $(8, 8)$
Circumference: $4\pi\sqrt{6}$

$$(x - 8)^2 + (y - 8)^2 = 24$$

230) Center: $(-1, -11)$
Circumference: $6\pi\sqrt{2}$

$$(x + 1)^2 + (y + 11)^2 = 18$$

231) Center: $(-11, 3)$
Circumference: 12π

$$(x + 11)^2 + (y - 3)^2 = 36$$

232) Center: $(11, -4)$
Circumference: 10π

$$(x - 11)^2 + (y + 4)^2 = 25$$

233) Center: $(1, 10)$
Circumference: 2π

$$(x - 1)^2 + (y - 10)^2 = 1$$

234) Center: $\left(\frac{3}{2}, \frac{17}{2}\right)$
Circumference: 18π

$$\left(x - \frac{3}{2}\right)^2 + \left(y - \frac{17}{2}\right)^2 = 81$$

235) Center: $(-8, -9)$
Circumference: $2\pi\sqrt{62}$

$$(x + 8)^2 + (y + 9)^2 = 62$$

236) Center: $(3, -2)$
Circumference: 8π

$$(x - 3)^2 + (y + 2)^2 = 16$$

237) Center: $(12, -15)$
Circumference: 4π

$$(x - 12)^2 + (y + 15)^2 = 4$$

238) Center: $(15, 5)$
Circumference: 4π

$$(x - 15)^2 + (y - 5)^2 = 4$$

239) Center: $(13, -10)$
Circumference: 10π

$$(x - 13)^2 + (y + 10)^2 = 25$$

240) Center: $(-7, 13)$
Circumference: 6π

$$(x + 7)^2 + (y - 13)^2 = 9$$

241) Center: $(-5, 11)$
Circumference: $4\pi\sqrt{11}$

$$(x + 5)^2 + (y - 11)^2 = 44$$

242) Center: $(-2, -11)$
Circumference: 4π

$$(x + 2)^2 + (y + 11)^2 = 4$$

243) Center: $(9, -4)$
Circumference: 10π

$$(x - 9)^2 + (y + 4)^2 = 25$$

244) Center: $(-11, 2)$
Circumference: 8π

$$(x + 11)^2 + (y - 2)^2 = 16$$

245) Center: $(0, 10)$
Circumference: 12π

$$x^2 + (y - 10)^2 = 36$$

246) Center: $(\sqrt{230}, 2\sqrt{55})$
Circumference: 4π

$$(x - \sqrt{230})^2 + (y - 2\sqrt{55})^2 = 4$$

247) Center: $(12, -16)$
Circumference: 6π

$$(x - 12)^2 + (y + 16)^2 = 9$$

248) Center: $(-10, -9)$
Circumference: 12π

$$(x + 10)^2 + (y + 9)^2 = 36$$

249) Center: $(2, -2)$
Circumference: $2\pi\sqrt{247}$

$$(x - 2)^2 + (y + 2)^2 = 247$$

250) Center: $(-7, 12)$
Circumference: 4π

$$(x + 7)^2 + (y - 12)^2 = 4$$

251) Center: $(13, 5)$
Circumference: 12π

$$(x - 13)^2 + (y - 5)^2 = 36$$

252) Center: $(5, -13)$
Circumference: 6π

$$(x - 5)^2 + (y + 13)^2 = 9$$

253) Center: $(-5, 0)$
Circumference: $2\pi\sqrt{6}$

$$(x + 5)^2 + y^2 = 6$$

254) Center: $(16, -7)$
Circumference: 4π

$$(x - 16)^2 + (y + 7)^2 = 4$$

255) Center: $(6, 7)$
Circumference: 14π

$$(x - 6)^2 + (y - 7)^2 = 49$$

256) Center: $(-3, -12)$
Circumference: 14π

$$(x + 3)^2 + (y + 12)^2 = 49$$

257) Center: $(-15, 15)$
Circumference: $2\pi\sqrt{15}$

$$(x + 15)^2 + (y - 15)^2 = 15$$

258) Center: $(-13, 3)$
Circumference: 4π

$$(x + 13)^2 + (y - 3)^2 = 4$$

259) Center: $(-1, 9)$
Circumference: 14π

$$(x + 1)^2 + (y - 9)^2 = 49$$

260) Center: $(9, -5)$
Circumference: 16π

$$(x - 9)^2 + (y + 5)^2 = 64$$

261) Center: $(10, 16)$
Circumference: $2\pi\sqrt{7}$

$$(x - 10)^2 + (y - 16)^2 = 7$$

262) Center: $(-11, -9)$
Circumference: 14π

$$(x + 11)^2 + (y + 9)^2 = 49$$

263) Center: $(2, -2)$
Circumference: $2\pi\sqrt{285}$

$$(x - 2)^2 + (y + 2)^2 = 285$$

264) Center: $(13, 4)$
Circumference: 6π

$$(x - 13)^2 + (y - 4)^2 = 9$$

265) Center: $(-8, -12)$
Circumference: 10π

$$(x + 8)^2 + (y - 12)^2 = 25$$

266) Center: $(3, -14)$
Circumference: 8π

$$(x - 3)^2 + (y + 14)^2 = 16$$

267) Center: $(15, -7)$
Circumference: 4π

$$(x - 15)^2 + (y + 7)^2 = 4$$

268) Center: $(-7, 0)$
Circumference: $2\pi\sqrt{94}$

$$(x + 7)^2 + y^2 = 94$$

269) Center: $\left(-\frac{5}{2}, 2\right)$
Circumference: 30π

$$\left(x + \frac{5}{2}\right)^2 + (y - 2)^2 = 225$$

270) Center: $\left(0, \frac{23}{2}\right)$
Circumference: 8π

$$x^2 + \left(y - \frac{23}{2}\right)^2 = 16$$

271) Center: $(-14, 2)$
Circumference: $2\pi\sqrt{15}$

$$(x + 14)^2 + (y - 2)^2 = 15$$

272) Center: $(-2, 9)$
Circumference: 8π

$$(x + 2)^2 + (y - 9)^2 = 16$$

273) Center: $(\sqrt{238}, \sqrt{6})$
Circumference: 2π

$$(x - \sqrt{238})^2 + (y - \sqrt{6})^2 = 1$$

274) Center: $(10, -16)$
Circumference: 2π

$$(x - 10)^2 + (y + 16)^2 = 1$$

275) Center: $(-11, -10)$
Circumference: 6π

$$(x + 11)^2 + (y + 10)^2 = 9$$

276) Center: $(0, -3)$
Circumference: 20π

$$x^2 + (y + 3)^2 = 100$$

277) Center: $(\sqrt{161}, -\frac{5}{2})$
Circumference: $4\pi\sqrt{5}$

$$(x - \sqrt{161})^2 + \left(y + \frac{5}{2}\right)^2 = 20$$

278) Center: $(12, 5)$
Circumference: 4π

$$(x - 12)^2 + (y - 5)^2 = 4$$

279) Center: $(-10, 11)$
Circumference: 10π

$$(x + 10)^2 + (y - 11)^2 = 25$$

280) Center: $(3, -15)$
Circumference: $2\pi\sqrt{13}$

$$(x - 3)^2 + (y + 15)^2 = 13$$

281) Center: $(14, -7)$
Circumference: 2π

$$(x - 14)^2 + (y + 7)^2 = 1$$

282) Center: $(-7, 0)$
Circumference: 20π

$$(x + 7)^2 + y^2 = 100$$

283) Center: $(4, 6)$
Circumference: $2\pi\sqrt{71}$

$$(x - 4)^2 + (y - 6)^2 = 71$$

284) Center: $(16, 14)$
Circumference: 6π

$$(x - 16)^2 + (y - 14)^2 = 9$$

285) Center: $(-5, -12)$
Circumference: 8π

$$(x + 5)^2 + (y + 12)^2 = 16$$

286) Center: $(7, -5)$
Circumference: 12π

$$(x - 7)^2 + (y + 5)^2 = 36$$

287) Center: $(-14, 1)$
Circumference: 2π

$$(x + 14)^2 + (y - 1)^2 = 1$$

288) Center: $(-3, 9)$
Circumference: $2\pi\sqrt{93}$

$$(x + 3)^2 + (y - 9)^2 = 93$$

289) Center: $(9, 16)$
Circumference: 4π

$$(x - 9)^2 + (y - 16)^2 = 4$$

290) Center: $(-1, -3)$
Circumference: 2π

$$(x + 1)^2 + (y + 3)^2 = 1$$

291) Center: $(-13, -10)$
Circumference: $2\pi\sqrt{15}$

$$(x + 13)^2 + (y + 10)^2 = 15$$

292) Center: $(11, 4)$
Circumference: 12π

$$(x - 11)^2 + (y - 4)^2 = 36$$

293) Center: $(1, -15)$
Circumference: 2π

$$(x - 1)^2 + (y + 15)^2 = 1$$

294) Center: $(-10, 11)$
Circumference: 12π

$$(x + 10)^2 + (y - 11)^2 = 36$$

295) Center: $(13, -8)$
Circumference: $6\pi\sqrt{3}$

$$(x - 13)^2 + (y + 8)^2 = 27$$

296) Center: $(-8, -1)$
Circumference: 2π

$$(x + 8)^2 + (y + 1)^2 = 1$$

297) Center: $(3, 7)$
Circumference: 6π

$$(x - 3)^2 + (y - 7)^2 = 9$$

298) Center: $(16, 13)$
Circumference: 6π

$$(x - 16)^2 + (y - 13)^2 = 9$$

299) Center: $(\sqrt{197}, \sqrt{73})$
Circumference: 8π

$$(x - \sqrt{197})^2 + (y - \sqrt{73})^2 = 16$$

300) Center: $(\frac{5}{2}, \sqrt{159})$
Circumference: 10π

$$(x - \frac{5}{2})^2 + (y - \sqrt{159})^2 = 25$$

Use the center and point on circle to make an equation

301) Center: $(2, -5)$
Point on Circle: $(13, -5)$

$$(x - 2)^2 + (y + 5)^2 = 121$$

302) Center: $(5, 1)$
Point on Circle: $(9, 13)$

$$(x - 5)^2 + (y - 1)^2 = 160$$

303) Center: $(-2, 16)$
Point on Circle: $(0, 14)$

$$(x + 2)^2 + (y - 16)^2 = 8$$

304) Center: $(0, 15)$
Point on Circle: $(1, 15)$

$$x^2 + (y - 15)^2 = 1$$

305) Center: $(4, -13)$
Point on Circle: $(10, -13)$

$$(x - 4)^2 + (y + 13)^2 = 36$$

306) Center: $(3, 7)$
Point on Circle: $(14, 4)$

$$(x - 3)^2 + (y - 7)^2 = 130$$

307) Center: $(7, 1)$
Point on Circle: $(5, 11)$

$$(x - 7)^2 + (y - 1)^2 = 104$$

308) Center: $(6, 13)$
Point on Circle: $(10, 10)$

$$(x - 6)^2 + (y - 13)^2 = 25$$

309) Center: $(5, -2)$
Point on Circle: $(1, 7)$

$$(x - 5)^2 + (y + 2)^2 = 97$$

310) Center: $(9, -8)$
Point on Circle: $(18, -10)$

$$(x - 9)^2 + (y + 8)^2 = 85$$

311) Center: $(8, 13)$
Point on Circle: $(10, 15)$

$$(x - 8)^2 + (y - 13)^2 = 8$$

312) Center: $(7, -2)$
Point on Circle: $(8, 4)$

$$(x - 7)^2 + (y + 2)^2 = 37$$

313) Center: $(14, -17)$
Point on Circle: $(13, -16)$

$$(x - 14)^2 + (y + 17)^2 = 2$$

314) Center: $(12, -16)$
Point on Circle: $(11, -16)$

$$(x - 12)^2 + (y + 16)^2 = 1$$

315) Center: $(10, 4)$
Point on Circle: $(11, 0)$

$$(x - 10)^2 + (y - 4)^2 = 17$$

316) Center: $(13, 4)$
Point on Circle: $(16, -1)$

$$(x - 13)^2 + (y - 4)^2 = 34$$

317) Center: (16, 10)
Point on Circle: (16, 7)

$$(x - 16)^2 + (y - 10)^2 = 9$$

318) Center: (9, -10)
Point on Circle: (4, -8)

$$(x - 9)^2 + (y + 10)^2 = 29$$

319) Center: (-16, 16)
Point on Circle: (-13, 16)

$$(x + 16)^2 + (y - 16)^2 = 9$$

320) Center: (-17, 1)
Point on Circle: (-17, 3)

$$(x + 17)^2 + (y - 1)^2 = 4$$

321) Center: (15, -5)
Point on Circle: (12, -3)

$$(x - 15)^2 + (y + 5)^2 = 13$$

322) Center: (-13, 16)
Point on Circle: (-13, 18)

$$(x + 13)^2 + (y - 16)^2 = 4$$

323) Center: (17, -13)
Point on Circle: (15, -13)

$$(x - 17)^2 + (y + 13)^2 = 4$$

324) Center: (-15, 1)
Point on Circle: (-17, 4)

$$(x + 15)^2 + (y - 1)^2 = 13$$

325) Center: (-11, 7)
Point on Circle: (-16, 13)

$$(x + 11)^2 + (y - 7)^2 = 61$$

326) Center: (-16, -14)
Point on Circle: (-16, -12)

$$(x + 16)^2 + (y + 14)^2 = 4$$

327) Center: (-12, -8)
Point on Circle: (-14, -4)

$$(x + 12)^2 + (y + 8)^2 = 20$$

328) Center: (-14, 13)
Point on Circle: (-10, 10)

$$(x + 14)^2 + (y - 13)^2 = 25$$

329) Center: (-9, 7)
Point on Circle: (-16, 10)

$$(x + 9)^2 + (y - 7)^2 = 58$$

330) Center: (-10, -8)
Point on Circle: (-4, -8)

$$(x + 10)^2 + (y + 8)^2 = 36$$

331) Center: (-8, -17)
Point on Circle: (-7, -18)

$$(x + 8)^2 + (y + 17)^2 = 2$$

332) Center: (-7, -2)
Point on Circle: (0, -1)

$$(x + 7)^2 + (y + 2)^2 = 50$$

333) Center: $(-11, 4)$
Point on Circle: $(-12, -1)$

$$(x + 11)^2 + (y - 4)^2 = 26$$

334) Center: $(-4, -10)$
Point on Circle: $(3, -14)$

$$(x + 4)^2 + (y + 10)^2 = 65$$

335) Center: $(-2, -11)$
Point on Circle: $(-5, -6)$

$$(x + 2)^2 + (y + 11)^2 = 34$$

336) Center: $(-6, 10)$
Point on Circle: $(-4, 15)$

$$(x + 6)^2 + (y - 10)^2 = 29$$

337) Center: $(-9, 4)$
Point on Circle: $(-12, 9)$

$$(x + 9)^2 + (y - 4)^2 = 34$$

338) Center: $(-7, -5)$
Point on Circle: $(3, -10)$

$$(x + 7)^2 + (y + 5)^2 = 125$$

339) Center: $(0, 16)$
Point on Circle: $(1, 17)$

$$x^2 + (y - 16)^2 = 2$$

340) Center: $(-3, 9)$
Point on Circle: $(1, 11)$

$$(x + 3)^2 + (y - 9)^2 = 20$$

341) Center: $(-1, 1)$
Point on Circle: $(-2, 13)$

$$(x + 1)^2 + (y - 1)^2 = 145$$

342) Center: $(2, 7)$
Point on Circle: $(7, 8)$

$$(x - 2)^2 + (y - 7)^2 = 26$$

343) Center: $(-2, -14)$
Point on Circle: $(-2, -15)$

$$(x + 2)^2 + (y + 14)^2 = 1$$

344) Center: $(-5, -5)$
Point on Circle: $(4, -11)$

$$(x + 5)^2 + (y + 5)^2 = 117$$

345) Center: $(1, -8)$
Point on Circle: $(10, -3)$

$$(x - 1)^2 + (y + 8)^2 = 106$$

346) Center: $(0, 13)$
Point on Circle: $(5, 14)$

$$x^2 + (y - 13)^2 = 26$$

347) Center: $(3, -8)$
Point on Circle: $(-4, -7)$

$$(x - 3)^2 + (y + 8)^2 = 50$$

348) Center: $(4, 7)$
Point on Circle: $(13, 14)$

$$(x - 4)^2 + (y - 7)^2 = 130$$

349) Center: (2, 12)
Point on Circle: (0, 11)

$$(x - 2)^2 + (y - 12)^2 = 5$$

350) Center: (5, -16)
Point on Circle: (3, -17)

$$(x - 5)^2 + (y + 16)^2 = 5$$

351) Center: (7, -2)
Point on Circle: (-5, -2)

$$(x - 7)^2 + (y + 2)^2 = 144$$

352) Center: (9, -2)
Point on Circle: (12, -3)

$$(x - 9)^2 + (y + 2)^2 = 10$$

353) Center: (4, 4)
Point on Circle: (8, 8)

$$(x - 4)^2 + (y - 4)^2 = 32$$

354) Center: (8, 10)
Point on Circle: (2, 15)

$$(x - 8)^2 + (y - 10)^2 = 61$$

355) Center: (11, -11)
Point on Circle: (15, -14)

$$(x - 11)^2 + (y + 11)^2 = 25$$

356) Center: (6, -5)
Point on Circle: (-5, -2)

$$(x - 6)^2 + (y + 5)^2 = 130$$

357) Center: (10, 10)
Point on Circle: (8, 13)

$$(x - 10)^2 + (y - 10)^2 = 13$$

358) Center: (9, -5)
Point on Circle: (16, -10)

$$(x - 9)^2 + (y + 5)^2 = 74$$

359) Center: (12, 1)
Point on Circle: (17, 0)

$$(x - 12)^2 + (y - 1)^2 = 26$$

360) Center: (13, 16)
Point on Circle: (15, 16)

$$(x - 13)^2 + (y - 16)^2 = 4$$

361) Center: (15, 15)
Point on Circle: (12, 16)

$$(x - 15)^2 + (y - 15)^2 = 10$$

362) Center: (11, -14)
Point on Circle: (7, -14)

$$(x - 11)^2 + (y + 14)^2 = 16$$

363) Center: (14, 1)
Point on Circle: (16, 2)

$$(x - 14)^2 + (y - 1)^2 = 5$$

364) Center: (-17, 7)
Point on Circle: (-18, 7)

$$(x + 17)^2 + (y - 7)^2 = 1$$

365) Center: (13, 13)
Point on Circle: (11, 12)

$$(x - 13)^2 + (y - 13)^2 = 5$$

366) Center: (-15, -2)
Point on Circle: (-12, 0)

$$(x + 15)^2 + (y + 2)^2 = 13$$

367) Center: (17, -8)
Point on Circle: (17, -7)

$$(x - 17)^2 + (y + 8)^2 = 1$$

368) Center: (-16, -16)
Point on Circle: (-16, -14)

$$(x + 16)^2 + (y + 16)^2 = 4$$

369) Center: (15, 12)
Point on Circle: (17, 11)

$$(x - 15)^2 + (y - 12)^2 = 5$$

370) Center: (-13, -2)
Point on Circle: (-7, -2)

$$(x + 13)^2 + (y + 2)^2 = 36$$

371) Center: (-14, -17)
Point on Circle: (-16, -17)

$$(x + 14)^2 + (y + 17)^2 = 4$$

372) Center: (-11, -11)
Point on Circle: (-9, -12)

$$(x + 11)^2 + (y + 11)^2 = 5$$

373) Center: (-17, 4)
Point on Circle: (-19, 4)

$$(x + 17)^2 + (y - 4)^2 = 4$$

374) Center: (-15, 3)
Point on Circle: (-17, 0)

$$(x + 15)^2 + (y - 3)^2 = 13$$

375) Center: (-12, 10)
Point on Circle: (-15, 6)

$$(x + 12)^2 + (y - 10)^2 = 25$$

376) Center: (-8, 16)
Point on Circle: (-11, 16)

$$(x + 8)^2 + (y - 16)^2 = 9$$

377) Center: (-10, 1)
Point on Circle: (-15, -5)

$$(x + 10)^2 + (y - 1)^2 = 61$$

378) Center: (-13, -5)
Point on Circle: (-19, -5)

$$(x + 13)^2 + (y + 5)^2 = 36$$

379) Center: (-11, -14)
Point on Circle: (-10, -15)

$$(x + 11)^2 + (y + 14)^2 = 2$$

380) Center: (-6, 15)
Point on Circle: (-8, 14)

$$(x + 6)^2 + (y - 15)^2 = 5$$

381) Center: $(-7, 1)$
Point on Circle: $(0, -8)$

$$(x + 7)^2 + (y - 1)^2 = 130$$

382) Center: $(-4, 7)$
Point on Circle: $(-9, 10)$

$$(x + 4)^2 + (y - 7)^2 = 34$$

383) Center: $(-1, -14)$
Point on Circle: $(-1, -16)$

$$(x + 1)^2 + (y + 14)^2 = 4$$

384) Center: $(-2, 6)$
Point on Circle: $(-15, 6)$

$$(x + 2)^2 + (y - 6)^2 = 169$$

385) Center: $(-5, -8)$
Point on Circle: $(1, -17)$

$$(x + 5)^2 + (y + 8)^2 = 117$$

386) Center: $(0, -2)$
Point on Circle: $(5, -9)$

$$x^2 + (y + 2)^2 = 74$$

387) Center: $(-3, -16)$
Point on Circle: $(-1, -15)$

$$(x + 3)^2 + (y + 16)^2 = 5$$

388) Center: $(2, 13)$
Point on Circle: $(3, 13)$

$$(x - 2)^2 + (y - 13)^2 = 1$$

389) Center: $(4, 4)$
Point on Circle: $(-3, 11)$

$$(x - 4)^2 + (y - 4)^2 = 98$$

390) Center: $(6, 4)$
Point on Circle: $(6, -4)$

$$(x - 6)^2 + (y - 4)^2 = 64$$

391) Center: $(-1, -17)$
Point on Circle: $(-3, -17)$

$$(x + 1)^2 + (y + 17)^2 = 4$$

392) Center: $(3, -11)$
Point on Circle: $(4, -15)$

$$(x - 3)^2 + (y + 11)^2 = 17$$

393) Center: $(2, 10)$
Point on Circle: $(4, 9)$

$$(x - 2)^2 + (y - 10)^2 = 5$$

394) Center: $(8, -5)$
Point on Circle: $(13, -13)$

$$(x - 8)^2 + (y + 5)^2 = 89$$

395) Center: $(5, -11)$
Point on Circle: $(13, -11)$

$$(x - 5)^2 + (y + 11)^2 = 64$$

396) Center: $(4, 9)$
Point on Circle: $(2, 18)$

$$(x - 4)^2 + (y - 9)^2 = 85$$

397) Center: $(11, -13)$
Point on Circle: $(9, -17)$

$$(x - 11)^2 + (y + 13)^2 = 20$$

398) Center: $(6, 1)$
Point on Circle: $(19, 1)$

$$(x - 6)^2 + (y - 1)^2 = 169$$

399) Center: $(7, 15)$
Point on Circle: $(6, 18)$

$$(x - 7)^2 + (y - 15)^2 = 10$$

400) Center: $(9, 7)$
Point on Circle: $(15, 8)$

$$(x - 9)^2 + (y - 7)^2 = 37$$

Use the center and tangent to make an equation for the circle

401) Center: $(8, -8)$
Tangent to $y = -15$

$$(x - 8)^2 + (y + 8)^2 = 49$$

402) Center: $(12, 16)$
Tangent to $x = 10$

$$(x - 12)^2 + (y - 16)^2 = 4$$

403) Center: $(5, 1)$
Tangent to $x = -5$

$$(x - 5)^2 + (y - 1)^2 = 100$$

404) Center: $(15, 6)$
Tangent to $x = 11$

$$(x - 15)^2 + (y - 6)^2 = 16$$

405) Center: $(-11, -12)$
Tangent to $y = -17$

$$(x + 11)^2 + (y + 12)^2 = 25$$

406) Center: $(-8, 11)$
Tangent to $y = 18$

$$(x + 8)^2 + (y - 11)^2 = 49$$

407) Center: $(-15, -3)$
Tangent to $y = -7$

$$(x + 15)^2 + (y + 3)^2 = 16$$

408) Center: $(-2, -7)$
Tangent to $y = -17$

$$(x + 2)^2 + (y + 7)^2 = 100$$

409) Center: $(-5, 3)$
Tangent to $x = -7$

$$(x + 5)^2 + (y - 3)^2 = 4$$

410) Center: $(2, 16)$
Tangent to $y = 15$

$$(x - 2)^2 + (y - 16)^2 = 1$$

411) Center: $(5, 8)$
Tangent to $x = -4$

$$(x - 5)^2 + (y - 8)^2 = 81$$

412) Center: $(15, 13)$
Tangent to $y = 14$

$$(x - 15)^2 + (y - 13)^2 = 1$$

413) Center: $(11, -11)$
Tangent to $x = 9$

$$(x - 11)^2 + (y + 11)^2 = 4$$

414) Center: $(8, -2)$
Tangent to $x = 13$

$$(x - 8)^2 + (y + 2)^2 = 25$$

415) Center: $(-15, 3)$
Tangent to $x = -13$

$$(x + 15)^2 + (y - 3)^2 = 4$$

416) Center: $(-12, -6)$
Tangent to $x = -10$

$$(x + 12)^2 + (y + 6)^2 = 4$$

417) Center: $(-5, 9)$
Tangent to $y = 16$

$$(x + 5)^2 + (y - 9)^2 = 49$$

418) Center: $(-9, -15)$
Tangent to $x = -11$

$$(x + 9)^2 + (y + 15)^2 = 4$$

419) Center: $(-2, -1)$
Tangent to $y = -13$

$$(x + 2)^2 + (y + 1)^2 = 144$$

420) Center: $(4, 14)$
Tangent to $y = 13$

$$(x - 4)^2 + (y - 14)^2 = 1$$

421) Center: $(1, -10)$
Tangent to $x = 6$

$$(x - 1)^2 + (y + 10)^2 = 25$$

422) Center: $(8, 4)$
Tangent to $y = -1$

$$(x - 8)^2 + (y - 4)^2 = 25$$

423) Center: $(11, -4)$
Tangent to $y = 2$

$$(x - 11)^2 + (y + 4)^2 = 36$$

424) Center: $(14, -14)$
Tangent to $x = 11$

$$(x - 14)^2 + (y + 14)^2 = 9$$

425) Center: $(-15, 10)$
Tangent to $y = 7$

$$(x + 15)^2 + (y - 10)^2 = 9$$

426) Center: $(-12, 1)$
Tangent to $y = -5$

$$(x + 12)^2 + (y - 1)^2 = 36$$

427) Center: $(-9, -9)$
Tangent to $x = -14$

$$(x + 9)^2 + (y + 9)^2 = 25$$

428) Center: $(-6, 15)$
Tangent to $x = -10$

$$(x + 6)^2 + (y - 15)^2 = 16$$

429) Center: $(-2, 6)$
Tangent to $x = -9$

$$(x + 2)^2 + (y - 6)^2 = 49$$

430) Center: $(4, -13)$
Tangent to $x = 6$

$$(x - 4)^2 + (y + 13)^2 = 4$$

431) Center: $(7, 11)$
Tangent to $x = 13$

$$(x - 7)^2 + (y - 11)^2 = 36$$

432) Center: $(11, 2)$
Tangent to $y = 5$

$$(x - 11)^2 + (y - 2)^2 = 9$$

433) Center: $(1, -3)$
Tangent to $y = 7$

$$(x - 1)^2 + (y + 3)^2 = 100$$

434) Center: $(14, -8)$
Tangent to $y = -4$

$$(x - 14)^2 + (y + 8)^2 = 16$$

435) Center: $(-16, -16)$
Tangent to $x = -13$

$$(x + 16)^2 + (y + 16)^2 = 9$$

436) Center: $(-13, 7)$
Tangent to $x = -9$

$$(x + 13)^2 + (y - 7)^2 = 16$$

437) Center: $(-9, -3)$
Tangent to $y = 4$

$$(x + 9)^2 + (y + 3)^2 = 49$$

438) Center: $(-6, -11)$
Tangent to $y = -12$

$$(x + 6)^2 + (y + 11)^2 = 1$$

439) Center: $(-3, 12)$
Tangent to $y = 14$

$$(x + 3)^2 + (y - 12)^2 = 4$$

440) Center: $(1, 3)$
Tangent to $x = -1$

$$(x - 1)^2 + (y - 3)^2 = 4$$

441) Center: $(4, -6)$
Tangent to $x = 10$

$$(x - 4)^2 + (y + 6)^2 = 36$$

442) Center: $(7, -16)$
Tangent to $x = 8$

$$(x - 7)^2 + (y + 16)^2 = 1$$

443) Center: $(10, 8)$
Tangent to $x = 5$

$$(x - 10)^2 + (y - 8)^2 = 25$$

444) Center: $(14, -2)$
Tangent to $x = 12$

$$(x - 14)^2 + (y + 2)^2 = 4$$

445) Center: $(-13, 13)$
Tangent to $y = 19$

$$(x + 13)^2 + (y - 13)^2 = 36$$

446) Center: $(-16, -10)$
Tangent to $x = -19$

$$(x + 16)^2 + (y + 10)^2 = 9$$

447) Center: $(-10, 3)$
Tangent to $y = 10$

$$(x + 10)^2 + (y - 3)^2 = 49$$

448) Center: $(-6, -5)$
Tangent to $x = 5$

$$(x + 6)^2 + (y + 5)^2 = 121$$

449) Center: $(3, 0)$
Tangent to $y = -10$

$$(x - 3)^2 + y^2 = 100$$

450) Center: $(0, 9)$
Tangent to $y = 15$

$$x^2 + (y - 9)^2 = 36$$

451) Center: $(-3, -15)$
Tangent to $y = -13$

$$(x + 3)^2 + (y + 15)^2 = 4$$

452) Center: $(7, -10)$
Tangent to $x = 12$

$$(x - 7)^2 + (y + 10)^2 = 25$$

453) Center: $(10, 14)$
Tangent to $x = 6$

$$(x - 10)^2 + (y - 14)^2 = 16$$

454) Center: $(13, 5)$
Tangent to $y = 0$

$$(x - 13)^2 + (y - 5)^2 = 25$$

455) Center: $(-13, -14)$
Tangent to $x = -14$

$$(x + 13)^2 + (y + 14)^2 = 1$$

456) Center: $(-16, -4)$
Tangent to $y = -7$

$$(x + 16)^2 + (y + 4)^2 = 9$$

457) Center: $(-10, 11)$
Tangent to $x = -12$

$$(x + 10)^2 + (y - 11)^2 = 4$$

458) Center: $(0, 16)$
Tangent to $x = -1$

$$x^2 + (y - 16)^2 = 1$$

459) Center: $(-7, 1)$
Tangent to $y = -4$

$$(x + 7)^2 + (y - 1)^2 = 25$$

460) Center: $(-3, -9)$
Tangent to $y = -16$

$$(x + 3)^2 + (y + 9)^2 = 49$$

461) Center: (3, 6)
Tangent to $x = 9$

$$(x - 3)^2 + (y - 6)^2 = 36$$

462) Center: (6, -3)
Tangent to $y = -11$

$$(x - 6)^2 + (y + 3)^2 = 64$$

463) Center: (10, -12)
Tangent to $y = -11$

$$(x - 10)^2 + (y + 12)^2 = 1$$

464) Center: (13, 11)
Tangent to $x = 17$

$$(x - 13)^2 + (y - 11)^2 = 16$$

465) Center: (-14, -7)
Tangent to $y = -4$

$$(x + 14)^2 + (y + 7)^2 = 9$$

466) Center: (-10, -16)
Tangent to $x = -8$

$$(x + 10)^2 + (y + 16)^2 = 4$$

467) Center: (16, 2)
Tangent to $x = 19$

$$(x - 16)^2 + (y - 2)^2 = 9$$

468) Center: (-7, 7)
Tangent to $x = -4$

$$(x + 7)^2 + (y - 7)^2 = 9$$

469) Center: (-4, -2)
Tangent to $x = 9$

$$(x + 4)^2 + (y + 2)^2 = 169$$

470) Center: (3, 12)
Tangent to $y = 7$

$$(x - 3)^2 + (y - 12)^2 = 25$$

471) Center: (0, -11)
Tangent to $y = -4$

$$x^2 + (y + 11)^2 = 49$$

472) Center: (6, 4)
Tangent to $x = 0$

$$(x - 6)^2 + (y - 4)^2 = 36$$

473) Center: (9, -6)
Tangent to $x = 2$

$$(x - 9)^2 + (y + 6)^2 = 49$$

474) Center: (16, 9)
Tangent to $x = 17$

$$(x - 16)^2 + (y - 9)^2 = 1$$

475) Center: (13, -16)
Tangent to $x = 12$

$$(x - 13)^2 + (y + 16)^2 = 1$$

476) Center: (-14, -1)
Tangent to $x = -18$

$$(x + 14)^2 + (y + 1)^2 = 16$$

477) Center: $(-11, -10)$
Tangent to $x = -17$

$$(x + 11)^2 + (y + 10)^2 = 36$$

478) Center: $(-7, 14)$
Tangent to $y = 11$

$$(x + 7)^2 + (y - 14)^2 = 9$$

479) Center: $(-4, 4)$
Tangent to $y = 11$

$$(x + 4)^2 + (y - 4)^2 = 49$$

480) Center: $(-1, -5)$
Tangent to $y = -8$

$$(x + 1)^2 + (y + 5)^2 = 9$$

481) Center: $(2, -14)$
Tangent to $x = 6$

$$(x - 2)^2 + (y + 14)^2 = 16$$

482) Center: $(9, 0)$
Tangent to $y = 5$

$$(x - 9)^2 + y^2 = 25$$

483) Center: $(6, 10)$
Tangent to $y = 13$

$$(x - 6)^2 + (y - 10)^2 = 9$$

484) Center: $(12, -9)$
Tangent to $x = 15$

$$(x - 12)^2 + (y + 9)^2 = 9$$

485) Center: $(15, 15)$
Tangent to $x = 18$

$$(x - 15)^2 + (y - 15)^2 = 9$$

486) Center: $(-14, 5)$
Tangent to $x = -16$

$$(x + 14)^2 + (y - 5)^2 = 4$$

487) Center: $(-11, -3)$
Tangent to $y = 3$

$$(x + 11)^2 + (y + 3)^2 = 36$$

488) Center: $(-8, -13)$
Tangent to $x = -13$

$$(x + 8)^2 + (y + 13)^2 = 25$$

489) Center: $(-4, 11)$
Tangent to $x = -6$

$$(x + 4)^2 + (y - 11)^2 = 4$$

490) Center: $(2, -8)$
Tangent to $y = -17$

$$(x - 2)^2 + (y + 8)^2 = 81$$

491) Center: $(-1, 2)$
Tangent to $x = 6$

$$(x + 1)^2 + (y - 2)^2 = 49$$

492) Center: $(5, 16)$
Tangent to $y = 14$

$$(x - 5)^2 + (y - 16)^2 = 4$$

493) Center: (9, 7)
Tangent to $x = 1$

$$(x - 9)^2 + (y - 7)^2 = 64$$

494) Center: (-15, 12)
Tangent to $y = 15$

$$(x + 15)^2 + (y - 12)^2 = 9$$

495) Center: (15, -12)
Tangent to $y = -13$

$$(x - 15)^2 + (y + 12)^2 = 1$$

496) Center: (12, -2)
Tangent to $y = -7$

$$(x - 12)^2 + (y + 2)^2 = 25$$

497) Center: (-11, 3)
Tangent to $x = -4$

$$(x + 11)^2 + (y - 3)^2 = 49$$

498) Center: (-8, -7)
Tangent to $y = 0$

$$(x + 8)^2 + (y + 7)^2 = 49$$

499) Center: (-5, -15)
Tangent to $y = -11$

$$(x + 5)^2 + (y + 15)^2 = 16$$

500) Center: (-2, 8)
Tangent to $x = 6$

$$(x + 2)^2 + (y - 8)^2 = 64$$

Use the quadrant and tangent to make an equation for the circle

501) Center lies in the fourth quadrant
Tangent to $y = -1$, $x = 14$, and $x = -4$

$$(x - 5)^2 + (y + 10)^2 = 81$$

502) Center lies in the second quadrant
Tangent to $x = -9$, $x = -11$, and the x -axis

$$(x + 10)^2 + (y - 1)^2 = 1$$

503) Center lies in the fourth quadrant
Tangent to $y = 9$, $x = -9$, and $x = 13$

$$(x - 2)^2 + (y + 2)^2 = 121$$

504) Center lies in the third quadrant
Tangent to $x = -6$, $y = 5$, and $y = -7$

$$(x + 12)^2 + (y + 1)^2 = 36$$

505) Center lies in the third quadrant
Tangent to $x = -5$, $x = 3$, and the x -axis

$$(x + 1)^2 + (y + 4)^2 = 16$$

506) Center lies in the first quadrant
Tangent to $y = 2$, $x = 14$, and $x = 10$

$$(x - 12)^2 + (y - 4)^2 = 4$$

507) Center lies in the third quadrant
Tangent to $y = -12$, $x = 1$, and $y = -18$

$$(x + 2)^2 + (y + 15)^2 = 9$$

508) Center lies in the third quadrant
Tangent to $y = 6$, $x = -1$, and $y = -8$

$$(x + 8)^2 + (y + 1)^2 = 49$$

509) Center lies in the third quadrant
Tangent to $x = 2$, $x = -12$, and $y = -2$

$$(x + 5)^2 + (y + 9)^2 = 49$$

510) Center lies in the second quadrant
Tangent to $y = 19$, $x = 3$, and $y = 9$

$$(x + 2)^2 + (y - 14)^2 = 25$$

511) Center lies in the fourth quadrant
Tangent to $x = -1$, $y = -10$, and $y = 2$

$$(x - 5)^2 + (y + 4)^2 = 36$$

512) Center lies in the second quadrant
Tangent to $y = 11$, $x = -2$, and $y = 15$

$$(x + 4)^2 + (y - 13)^2 = 4$$

513) Center lies in the first quadrant
Tangent to $x = 6$, $y = 5$, and $x = 16$

$$(x - 11)^2 + (y - 10)^2 = 25$$

514) Center lies in the first quadrant
Tangent to $x = -9$, $y = -6$, and $y = 14$

$$(x - 1)^2 + (y - 4)^2 = 100$$

515) Center lies in the first quadrant
Tangent to $x = 13$, $x = 15$, and the x -axis

$$(x - 14)^2 + (y - 1)^2 = 1$$

516) Center lies in the fourth quadrant
Tangent to $x = 1$, $y = -14$, and $y = -18$

$$(x - 3)^2 + (y + 16)^2 = 4$$

517) Center lies in the first quadrant
Tangent to $y = 14$, $x = 2$, and $y = 10$

$$(x - 4)^2 + (y - 12)^2 = 4$$

518) Center lies in the second quadrant
Tangent to $y = -3$, $x = -18$, and the y -axis

$$(x + 9)^2 + (y - 6)^2 = 81$$

519) Center lies in the first quadrant
Tangent to $x = -4$, $y = 17$, and $y = 7$

$$(x - 1)^2 + (y - 12)^2 = 25$$

520) Center lies in the third quadrant
Tangent to $y = -9$, $x = 1$, and $y = 3$

$$(x + 5)^2 + (y + 3)^2 = 36$$

521) Center lies in the first quadrant
Tangent to $y = -1$, $y = 5$, and $x = 1$

$$(x - 4)^2 + (y - 2)^2 = 9$$

522) Center lies in the third quadrant
Tangent to $y = -15$, the y -axis, and $y = -11$

$$(x + 2)^2 + (y + 13)^2 = 4$$

523) Center lies in the first quadrant
Tangent to $y = 19$, the y -axis, and $y = 13$

$$(x - 3)^2 + (y - 16)^2 = 9$$

524) Center lies in the third quadrant
Tangent to $x = -15$, $y = -1$, and $x = -17$

$$(x + 16)^2 + (y + 2)^2 = 1$$

525) Center lies in the fourth quadrant
Tangent to $x = 13$, $y = 1$, and $x = -3$

$$(x - 5)^2 + (y + 7)^2 = 64$$

526) Center lies in the first quadrant
Tangent to $x = 17$, $x = 1$, and $y = -3$

$$(x - 9)^2 + (y - 5)^2 = 64$$

527) Center lies in the first quadrant
Tangent to $x = 7$, $x = -5$, and $y = -5$

$$(x - 1)^2 + (y - 1)^2 = 36$$

528) Center lies in the second quadrant
Tangent to $y = 17$, $x = -4$, and $y = 7$

$$(x + 9)^2 + (y - 12)^2 = 25$$

529) Center lies in the second quadrant
Tangent to $x = 3$, $x = -15$, and $y = -6$

$$(x + 6)^2 + (y - 3)^2 = 81$$

530) Center lies in the third quadrant
Tangent to $x = 5$, $y = 2$, and $x = -11$

$$(x + 3)^2 + (y + 6)^2 = 64$$

531) Center lies in the first quadrant
Tangent to $y = 19$, $y = -3$, and $x = -7$

$$(x - 4)^2 + (y - 8)^2 = 121$$

532) Center lies in the fourth quadrant
Tangent to $y = -14$, $y = -16$, and the y -axis

$$(x - 1)^2 + (y + 15)^2 = 1$$

533) Center lies in the fourth quadrant
Tangent to $x = 3$, $y = 3$, and $x = 11$

$$(x - 7)^2 + (y + 1)^2 = 16$$

534) Center lies in the third quadrant
Tangent to $x = -8$, $x = -18$, and $y = 1$

$$(x + 13)^2 + (y + 4)^2 = 25$$

535) Center lies on the y -axis
Tangent to $y = -19$ and $y = -13$

$$x^2 + (y + 16)^2 = 9$$

536) Center lies in the second quadrant
Tangent to $y = 10$, $y = 18$, and $x = 3$

$$(x + 1)^2 + (y - 14)^2 = 16$$

537) Center lies in the third quadrant
Tangent to $y = -1$, $x = -17$, and $x = -9$

$$(x + 13)^2 + (y + 5)^2 = 16$$

538) Center lies in the fourth quadrant
Tangent to $y = -6$, $x = 8$, and $x = -4$

$$(x - 2)^2 + (y + 12)^2 = 36$$

539) Center lies on the x -axis
Tangent to $x = -9$ and $x = 3$

$$(x + 3)^2 + y^2 = 36$$

540) Center lies on the y -axis
Tangent to $x = -6$ and $y = -15$

$$x^2 + (y + 9)^2 = 36$$

541) Center lies in the second quadrant
Tangent to $x = 2$, $y = 2$, and $y = 18$

$$(x + 6)^2 + (y - 10)^2 = 64$$

542) Center lies in the first quadrant
Tangent to $y = 12$, $y = 18$, and $x = 1$

$$(x - 4)^2 + (y - 15)^2 = 9$$

543) Center lies in the first quadrant
Tangent to $y = -2$, $y = 12$, and the y -axis

$$(x - 7)^2 + (y - 5)^2 = 49$$

544) Center lies in the fourth quadrant
Tangent to $y = 4$, $y = -12$, and $x = 2$

$$(x - 10)^2 + (y + 4)^2 = 64$$

545) Center lies in the first quadrant
Tangent to $x = 13$, $x = -3$, and the x -axis

$$(x - 5)^2 + (y - 8)^2 = 64$$

546) Center lies in the second quadrant
Tangent to $y = 17$, $y = 7$, and $x = -5$

$$(x + 10)^2 + (y - 12)^2 = 25$$

547) Center lies in the second quadrant
Tangent to $y = -2$, $x = -16$, and $x = -10$

$$(x + 13)^2 + (y - 1)^2 = 9$$

548) Center lies on the y -axis
Tangent to $y = -12$ and $y = 8$

$$x^2 + (y + 2)^2 = 100$$

549) Center lies in the third quadrant
Tangent to $y = 1$, $x = -1$, and $y = -17$

$$(x + 10)^2 + (y + 8)^2 = 81$$

550) Center lies in the second quadrant
Tangent to the y -axis, $y = 3$, and $x = -6$

$$(x + 3)^2 + (y - 6)^2 = 9$$

551) Center lies in the third quadrant
Tangent to $x = -2$, $x = -12$, and $y = 4$

$$(x + 7)^2 + (y + 1)^2 = 25$$

552) Center lies in the fourth quadrant
Tangent to the y -axis, $y = -15$, and $y = -9$

$$(x - 3)^2 + (y + 12)^2 = 9$$

553) Center lies in the first quadrant
Tangent to $x = 3$, $y = 6$, and $y = 16$

$$(x - 8)^2 + (y - 11)^2 = 25$$

554) Center lies in the first quadrant
Tangent to $x = 14$, $x = 6$, and $y = -1$

$$(x - 10)^2 + (y - 3)^2 = 16$$

555) Center lies in the second quadrant
Tangent to $x = -10$, $y = -1$, and $x = -18$

$$(x + 14)^2 + (y - 3)^2 = 16$$

556) Center lies in the fourth quadrant
Tangent to $y = 2$, $x = 7$, and $x = 13$

$$(x - 10)^2 + (y + 1)^2 = 9$$

557) Center lies in the second quadrant
Tangent to $x = -17$, $y = 4$, and $x = -9$

$$(x + 13)^2 + (y - 8)^2 = 16$$

558) Center lies in the third quadrant
Tangent to $x = -16$, $y = 5$, and $x = -4$

$$(x + 10)^2 + (y + 1)^2 = 36$$

559) Center lies in the third quadrant
Tangent to $y = -5$, $x = -1$, and $x = -13$

$$(x + 7)^2 + (y + 11)^2 = 36$$

560) Center lies on the y-axis
Tangent to $x = -8$ and $y = -4$

$$x^2 + (y - 4)^2 = 64$$

561) Center lies in the second quadrant
Tangent to $y = 9$, $y = 17$, and the y-axis

$$(x + 4)^2 + (y - 13)^2 = 16$$

562) Center lies in the fourth quadrant
Tangent to $x = 13$, $x = -7$, and $y = 4$

$$(x - 3)^2 + (y + 6)^2 = 100$$

563) Center lies in the fourth quadrant
Tangent to $y = -18$, $x = 2$, and $y = -10$

$$(x - 6)^2 + (y + 14)^2 = 16$$

564) Center lies in the first quadrant
Tangent to $y = 3$, $x = 3$, and $y = 15$

$$(x - 9)^2 + (y - 9)^2 = 36$$

565) Center lies in the fourth quadrant
Tangent to $y = 2$, $x = 10$, and $x = 16$

$$(x - 13)^2 + (y + 1)^2 = 9$$

566) Center lies in the first quadrant
Tangent to $x = -3$, $y = 10$, and $y = -2$

$$(x - 3)^2 + (y - 4)^2 = 36$$

567) Center lies in the first quadrant
Tangent to $y = -1$, $x = 6$, and $x = 16$

$$(x - 11)^2 + (y - 4)^2 = 25$$

568) Center lies in the third quadrant
Tangent to $y = 4$, $y = -14$, and $x = 2$

$$(x + 7)^2 + (y + 5)^2 = 81$$

569) Center lies in the second quadrant
Tangent to $y = 14$, $x = -1$, and $y = -4$

$$(x + 10)^2 + (y - 5)^2 = 81$$

570) Center lies in the third quadrant
Tangent to the y-axis, $y = -18$, and $y = -10$

$$(x + 4)^2 + (y + 14)^2 = 16$$

571) Center lies on the x-axis
Tangent to $x = -9$ and $x = 15$

$$(x - 3)^2 + y^2 = 144$$

572) Center lies in the second quadrant
Tangent to $y = 19$, $y = 1$, and $x = 8$

$$(x + 1)^2 + (y - 10)^2 = 81$$

573) Center lies in the fourth quadrant
Tangent to $x = -4$, $x = 16$, and $y = 2$

$$(x - 6)^2 + (y + 8)^2 = 100$$

574) Center lies in the first quadrant
Tangent to $x = 5$, $y = 4$, and $x = 13$

$$(x - 9)^2 + (y - 8)^2 = 16$$

575) Center lies in the first quadrant
Tangent to $x = 9$, $x = 15$, and $y = 2$

$$(x - 12)^2 + (y - 5)^2 = 9$$

576) Center lies on the y-axis
Tangent to $x = 9$ and $y = -2$

$$x^2 + (y - 7)^2 = 81$$

577) Center lies in the fourth quadrant
Tangent to $x = 14$, $x = 18$, and $y = -1$

$$(x - 16)^2 + (y + 3)^2 = 4$$

578) Center lies in the third quadrant
Tangent to the y-axis, $y = -4$, and $y = -12$

$$(x + 4)^2 + (y + 8)^2 = 16$$

579) Center lies in the second quadrant
Tangent to $x = -15$, $x = -1$, and $y = -5$

$$(x + 8)^2 + (y - 2)^2 = 49$$

580) Center lies in the second quadrant
Tangent to $y = 19$, $y = 13$, and $x = 2$

$$(x + 1)^2 + (y - 16)^2 = 9$$

581) Center lies in the first quadrant
Tangent to $y = -2$, $x = -7$, and $x = 11$

$$(x - 2)^2 + (y - 7)^2 = 81$$

582) Center lies in the fourth quadrant
Tangent to $y = -18$, $x = 3$, and $y = -6$

$$(x - 9)^2 + (y + 12)^2 = 36$$

583) Center lies on the x-axis
Tangent to $x = 4$ and $y = 5$

$$(x - 9)^2 + y^2 = 25$$

584) Center lies in the fourth quadrant
Tangent to $y = -5$, $x = 3$, and $y = 1$

$$(x - 6)^2 + (y + 2)^2 = 9$$

585) Center lies in the first quadrant
Tangent to $x = -3$, $y = 14$, and $y = -2$

$$(x - 5)^2 + (y - 6)^2 = 64$$

586) Center lies in the second quadrant
Tangent to $y = 3$, $x = -12$, and $x = -6$

$$(x + 9)^2 + (y - 6)^2 = 9$$

587) Center lies in the first quadrant
Tangent to $x = 16$, $x = 2$, and $y = -1$

$$(x - 9)^2 + (y - 6)^2 = 49$$

588) Center lies in the second quadrant
Tangent to $x = -4$, $x = -12$, and $y = 4$

$$(x + 8)^2 + (y - 8)^2 = 16$$

589) Center lies in the third quadrant
Tangent to $x = 2$, $y = 6$, and $x = -12$

$$(x + 5)^2 + (y + 1)^2 = 49$$

590) Center lies in the third quadrant
Tangent to $y = -6$, $x = 3$, and $y = -14$

$$(x + 1)^2 + (y + 10)^2 = 16$$

591) Center lies in the first quadrant
Tangent to $x = -4$, $y = 19$, and $y = 7$

$$(x - 2)^2 + (y - 13)^2 = 36$$

592) Center lies in the first quadrant
Tangent to $x = 1$, $y = 8$, and the x -axis

$$(x - 5)^2 + (y - 4)^2 = 16$$

593) Center lies in the fourth quadrant
Tangent to $x = 1$, $x = 15$, and $y = 2$

$$(x - 8)^2 + (y + 5)^2 = 49$$

594) Center lies in the first quadrant
Tangent to $x = 17$, $y = -2$, and $x = 3$

$$(x - 10)^2 + (y - 5)^2 = 49$$

595) Center lies on the x -axis
Tangent to $x = -12$ and $x = -18$

$$(x + 15)^2 + y^2 = 9$$

596) Center lies in the second quadrant
Tangent to $x = 4$, $y = 13$, and $y = -3$

$$(x + 4)^2 + (y - 5)^2 = 64$$

597) Center lies on the y -axis
Tangent to $x = -5$ and the x -axis

$$x^2 + (y - 5)^2 = 25$$

598) Center lies on the y -axis
Tangent to $x = 1$ and $y = -15$

$$x^2 + (y + 16)^2 = 1$$

599) Center lies in the third quadrant
Tangent to $y = -11$, $x = 5$, and $y = 3$

$$(x + 2)^2 + (y + 4)^2 = 49$$

600) Center lies in the second quadrant
Tangent to the x -axis, $y = 12$, and $x = 1$

$$(x + 5)^2 + (y - 6)^2 = 36$$

Use the endpoints of diameter to make an equation for the circle

601) Ends of a diameter: $(17, 4)$ and $(3, 14)$

$$(x - 10)^2 + (y - 9)^2 = 74$$

602) Ends of a diameter: $(-9, -1)$ and $(11, -9)$

$$(x - 1)^2 + (y + 5)^2 = 116$$

603) Ends of a diameter: $(9, -1)$ and $(15, 1)$

$$(x - 12)^2 + y^2 = 10$$

604) Ends of a diameter: $(-13, -11)$ and $(1, 1)$

$$(x + 6)^2 + (y + 5)^2 = 85$$

605) Ends of a diameter: $(9, -4)$ and $(11, 13)$

$$(x - 10)^2 + \left(y - \frac{9}{2}\right)^2 = \frac{293}{4}$$

606) Ends of a diameter: $(3, -11)$ and $(-10, 0)$

$$\left(x + \frac{7}{2}\right)^2 + \left(y + \frac{11}{2}\right)^2 = \frac{145}{2}$$

607) Ends of a diameter: $(1, -18)$ and $(-1, 8)$

$$x^2 + (y + 5)^2 = 170$$

608) Ends of a diameter: $(6, -11)$ and $(1, -12)$

$$\left(x - \frac{7}{2}\right)^2 + \left(y + \frac{23}{2}\right)^2 = \frac{13}{2}$$

609) Ends of a diameter: $(-17, -12)$ and $(-17, -16)$

$$(x + 17)^2 + (y + 14)^2 = 4$$

610) Ends of a diameter: $(-8, -3)$ and $(8, -3)$

$$x^2 + (y + 3)^2 = 64$$

611) Ends of a diameter: $(-5, -10)$ and $(-13, -16)$

$$(x + 9)^2 + (y + 13)^2 = 25$$

612) Ends of a diameter: $(2, 18)$ and $(11, -5)$

$$\left(x - \frac{13}{2}\right)^2 + \left(y - \frac{13}{2}\right)^2 = \frac{305}{2}$$

613) Ends of a diameter: $(-4, -12)$ and $(-2, -10)$

$$(x + 3)^2 + (y + 11)^2 = 2$$

614) Ends of a diameter: $(14, -4)$ and $(-12, 6)$

$$(x - 1)^2 + (y - 1)^2 = 194$$

615) Ends of a diameter: $(-8, -7)$ and $(6, -13)$

$$(x + 1)^2 + (y + 10)^2 = 58$$

616) Ends of a diameter: $(-15, 2)$ and $(1, 2)$

$$(x + 7)^2 + (y - 2)^2 = 64$$

617) Ends of a diameter: $(2, 13)$ and $(-1, 3)$

$$\left(x - \frac{1}{2}\right)^2 + (y - 8)^2 = \frac{109}{4}$$

618) Ends of a diameter: $(3, 8)$ and $(1, -6)$

$$(x - 2)^2 + (y - 1)^2 = 50$$

619) Ends of a diameter: $(15, -1)$ and $(5, -11)$

$$(x - 10)^2 + (y + 6)^2 = 50$$

620) Ends of a diameter: $(-16, 13)$ and $(-4, 11)$

$$(x + 10)^2 + (y - 12)^2 = 37$$

621) Ends of a diameter: $(-9, -9)$ and $(-3, -9)$

$$(x + 6)^2 + (y + 9)^2 = 9$$

622) Ends of a diameter: $(5, 14)$ and $(-3, -8)$

$$(x - 1)^2 + (y - 3)^2 = 137$$

623) Ends of a diameter: $(-10, 0)$ and $(10, -6)$

$$x^2 + (y + 3)^2 = 109$$

624) Ends of a diameter: $(6, 0)$ and $(-6, 12)$

$$x^2 + (y - 6)^2 = 72$$

625) Ends of a diameter: $(14, -5)$ and $(-8, -9)$

$$(x - 3)^2 + (y + 7)^2 = 125$$

626) Ends of a diameter: $(9, 7)$ and $(3, -3)$

$$(x - 6)^2 + (y - 2)^2 = 34$$

627) Ends of a diameter: $(0, -8)$ and $(12, 0)$

$$(x - 6)^2 + (y + 4)^2 = 52$$

628) Ends of a diameter: $(-18, 5)$ and $(4, -7)$

$$(x + 7)^2 + (y + 1)^2 = 157$$

629) Ends of a diameter: $(-14, 0)$ and $(-16, -2)$

$$(x + 15)^2 + (y + 1)^2 = 2$$

630) Ends of a diameter: $(1, 15)$ and $(-1, 17)$

$$x^2 + (y - 16)^2 = 2$$

631) Ends of a diameter: $(17, -11)$ and $(-7, -1)$

$$(x - 5)^2 + (y + 6)^2 = 169$$

632) Ends of a diameter: $(-8, 0)$ and $(2, 18)$

$$(x + 3)^2 + (y - 9)^2 = 106$$

633) Ends of a diameter: $(6, -14)$ and $(16, -2)$

$$(x - 11)^2 + (y + 8)^2 = 61$$

634) Ends of a diameter: $(9, 9)$ and $(-3, -1)$

$$(x - 3)^2 + (y - 4)^2 = 61$$

635) Ends of a diameter: $(11, 11)$ and $(15, 3)$

$$(x - 13)^2 + (y - 7)^2 = 20$$

636) Ends of a diameter: $(9, 2)$ and $(8, -8)$

$$\left(x - \frac{17}{2}\right)^2 + (y + 3)^2 = \frac{101}{4}$$

637) Ends of a diameter: $(6, -18)$ and $(9, -1)$

$$\left(x - \frac{15}{2}\right)^2 + \left(y + \frac{19}{2}\right)^2 = \frac{149}{2}$$

638) Ends of a diameter: (15, 10) and (-2, 5)

$$\left(x - \frac{13}{2}\right)^2 + \left(y - \frac{15}{2}\right)^2 = \frac{157}{2}$$

640) Ends of a diameter: (12, 2) and (18, 0)

$$(x - 15)^2 + (y - 1)^2 = 10$$

642) Ends of a diameter: (13, -6) and (9, -4)

$$(x - 11)^2 + (y + 5)^2 = 5$$

644) Ends of a diameter: (3, 5) and (9, -19)

$$(x - 6)^2 + (y + 7)^2 = 153$$

646) Ends of a diameter: (17, -2) and (-5, -6)

$$(x - 6)^2 + (y + 4)^2 = 125$$

648) Ends of a diameter: (-12, 7) and (10, -3)

$$(x + 1)^2 + (y - 2)^2 = 146$$

650) Ends of a diameter: (-7, 19) and (-7, 5)

$$(x + 7)^2 + (y - 12)^2 = 49$$

652) Ends of a diameter: (12, -14) and (16, -8)

$$(x - 14)^2 + (y + 11)^2 = 13$$

654) Ends of a diameter: (11, 12) and (9, 10)

$$(x - 10)^2 + (y - 11)^2 = 2$$

639) Ends of a diameter: (-17, -8) and (11, 0)

$$(x + 3)^2 + (y + 4)^2 = 212$$

641) Ends of a diameter: (2, 18) and (-4, -18)

$$(x + 1)^2 + y^2 = 333$$

643) Ends of a diameter: (1, 17) and (-4, 4)

$$\left(x + \frac{3}{2}\right)^2 + \left(y - \frac{21}{2}\right)^2 = \frac{97}{2}$$

645) Ends of a diameter: (1, -12) and (-1, -18)

$$x^2 + (y + 15)^2 = 10$$

647) Ends of a diameter: (-14, 3) and (-18, -3)

$$(x + 16)^2 + y^2 = 13$$

649) Ends of a diameter: (3, -9) and (-1, 9)

$$(x - 1)^2 + y^2 = 85$$

651) Ends of a diameter: (-4, -9) and (-6, -5)

$$(x + 5)^2 + (y + 7)^2 = 5$$

653) Ends of a diameter: (-2, 11) and (-12, -9)

$$(x + 7)^2 + (y - 1)^2 = 125$$

655) Ends of a diameter: (10, 8) and (-1, -18)

$$\left(x - \frac{9}{2}\right)^2 + (y + 5)^2 = \frac{797}{4}$$

656) Ends of a diameter: $(-10, -12)$ and $(4, -6)$

$$(x + 3)^2 + (y + 9)^2 = 58$$

657) Ends of a diameter: $(3, 1)$ and $(-5, -15)$

$$(x + 1)^2 + (y + 7)^2 = 80$$

658) Ends of a diameter: $(-5, -5)$ and $(13, -11)$

$$(x - 4)^2 + (y + 8)^2 = 90$$

659) Ends of a diameter: $(-10, -2)$ and $(8, 12)$

$$(x + 1)^2 + (y - 5)^2 = 130$$

660) Ends of a diameter: $(-6, 16)$ and $(0, -14)$

$$(x + 3)^2 + (y - 1)^2 = 234$$

661) Ends of a diameter: $(8, -2)$ and $(10, 18)$

$$(x - 9)^2 + (y - 8)^2 = 101$$

662) Ends of a diameter: $(13, -9)$ and $(13, 5)$

$$(x - 13)^2 + (y + 2)^2 = 49$$

663) Ends of a diameter: $(-4, -10)$ and $(8, -14)$

$$(x - 2)^2 + (y + 12)^2 = 40$$

664) Ends of a diameter: $(8, -5)$ and $(0, 1)$

$$(x - 4)^2 + (y + 2)^2 = 25$$

665) Ends of a diameter: $(6, -10)$ and $(-2, -2)$

$$(x - 2)^2 + (y + 6)^2 = 32$$

666) Ends of a diameter: $(-16, 18)$ and $(-16, 10)$

$$(x + 16)^2 + (y - 14)^2 = 16$$

667) Ends of a diameter: $(-9, -1)$ and $(7, 3)$

$$(x + 1)^2 + (y - 1)^2 = 68$$

668) Ends of a diameter: $(-10, 12)$ and $(-6, 18)$

$$(x + 8)^2 + (y - 15)^2 = 13$$

669) Ends of a diameter: $(-12, 14)$ and $(-18, 14)$

$$(x + 15)^2 + (y - 14)^2 = 9$$

670) Ends of a diameter: $(1, -4)$ and $(-7, -10)$

$$(x + 3)^2 + (y + 7)^2 = 25$$

671) Ends of a diameter: $(-6, -6)$ and $(0, 4)$

$$(x + 3)^2 + (y + 1)^2 = 34$$

672) Ends of a diameter: $(-12, 9)$ and $(-4, 3)$

$$(x + 8)^2 + (y - 6)^2 = 25$$

673) Ends of a diameter: $(6, -15)$ and $(10, -17)$

$$(x - 8)^2 + (y + 16)^2 = 5$$

674) Ends of a diameter: $(10, -15)$ and $(-6, 1)$

$$(x - 2)^2 + (y + 7)^2 = 128$$

675) Ends of a diameter: $(-11, 7)$ and $(-4, 15)$

$$\left(x + \frac{15}{2}\right)^2 + (y - 11)^2 = \frac{113}{4}$$

676) Ends of a diameter: $(7, 7)$ and $(-9, 3)$

$$(x + 1)^2 + (y - 5)^2 = 68$$

677) Ends of a diameter: $(4, -15)$ and $(12, -11)$

$$(x - 8)^2 + (y + 13)^2 = 20$$

678) Ends of a diameter: $(0, -9)$ and $(-10, 19)$

$$(x + 5)^2 + (y - 5)^2 = 221$$

679) Ends of a diameter: $(0, -17)$ and $(8, 13)$

$$(x - 4)^2 + (y + 2)^2 = 241$$

680) Ends of a diameter: $(-1, -6)$ and $(11, -2)$

$$(x - 5)^2 + (y + 4)^2 = 40$$

681) Ends of a diameter: $(-16, 7)$ and $(0, -9)$

$$(x + 8)^2 + (y + 1)^2 = 128$$

682) Ends of a diameter: $(-3, 11)$ and $(15, 11)$

$$(x - 6)^2 + (y - 11)^2 = 81$$

683) Ends of a diameter: $(6, 0)$ and $(-14, 2)$

$$(x + 4)^2 + (y - 1)^2 = 101$$

684) Ends of a diameter: $(-11, 18)$ and $(-11, 0)$

$$(x + 11)^2 + (y - 9)^2 = 81$$

685) Ends of a diameter: $(16, -12)$ and $(18, -16)$

$$(x - 17)^2 + (y + 14)^2 = 5$$

686) Ends of a diameter: $(-15, -9)$ and $(-14, -10)$

$$\left(x + \frac{29}{2}\right)^2 + \left(y + \frac{19}{2}\right)^2 = \frac{1}{2}$$

687) Ends of a diameter: $(-6, 6)$ and $(-2, -8)$

$$(x + 4)^2 + (y + 1)^2 = 53$$

688) Ends of a diameter: $(0, -9)$ and $(-12, -15)$

$$(x + 6)^2 + (y + 12)^2 = 45$$

689) Ends of a diameter: $(-13, -16)$ and $(5, 9)$

$$(x + 4)^2 + \left(y + \frac{7}{2}\right)^2 = \frac{949}{4}$$

690) Ends of a diameter: $(3, 7)$ and $(-1, -19)$

$$(x - 1)^2 + (y + 6)^2 = 173$$

691) Ends of a diameter: $(-17, 3)$ and $(17, -5)$

$$x^2 + (y + 1)^2 = 305$$

692) Ends of a diameter: $(6, 8)$ and $(-4, 6)$

$$(x - 1)^2 + (y - 7)^2 = 26$$

693) Ends of a diameter: $(-7, -2)$ and $(13, -2)$

$$(x - 3)^2 + (y + 2)^2 = 100$$

694) Ends of a diameter: $(-14, 13)$ and $(-12, 13)$

$$(x + 13)^2 + (y - 13)^2 = 1$$

695) Ends of a diameter: $(7, 1)$ and $(-11, 15)$

$$(x + 2)^2 + (y - 8)^2 = 130$$

696) Ends of a diameter: $(19, -13)$ and $(5, -7)$

$$(x - 12)^2 + (y + 10)^2 = 58$$

697) Ends of a diameter: $(-16, -8)$ and $(-4, -5)$

$$(x + 10)^2 + \left(y + \frac{13}{2}\right)^2 = \frac{153}{4}$$

698) Ends of a diameter: $(-2, -12)$ and $(-15, -8)$

$$\left(x + \frac{17}{2}\right)^2 + (y + 10)^2 = \frac{185}{4}$$

699) Ends of a diameter: $(4, -4)$ and $(5, 5)$

$$\left(x - \frac{9}{2}\right)^2 + \left(y - \frac{1}{2}\right)^2 = \frac{41}{2}$$

700) Ends of a diameter: $(-5, 12)$ and $(14, 7)$

$$\left(x - \frac{9}{2}\right)^2 + \left(y - \frac{19}{2}\right)^2 = \frac{193}{2}$$

Use the three points on the circle to make an equation for that specific circle

701) Three points on the circle:

$(7, 2)$, $(11, -2)$, and $(-3, -16)$

$$(x - 2)^2 + (y + 7)^2 = 106$$

702) Three points on the circle:

$(-6, -4)$, $(-2, 6)$, and $(-6, 2)$

$$(x - 1)^2 + (y + 1)^2 = 58$$

703) Three points on the circle:

$(-9, -4)$, $(-5, -8)$, and $(-5, 0)$

$$(x + 5)^2 + (y + 4)^2 = 16$$

704) Three points on the circle:

$(-1, -2)$, $(-6, -7)$, and $(4, -7)$

$$(x + 1)^2 + (y + 7)^2 = 25$$

705) Three points on the circle:

$(5, -12)$, $(19, 2)$, and $(-3, 2)$

$$(x - 8)^2 + (y + 1)^2 = 130$$

706) Three points on the circle:

$(3, -4)$, $(-7, -4)$, and $(-7, 8)$

$$(x + 2)^2 + (y - 2)^2 = 61$$

707) Three points on the circle:
(7, 19), (7, -11), and (1, -11)

$$(x - 4)^2 + (y - 4)^2 = 234$$

708) Three points on the circle:
(-19, -9), (-18, -10), and (-12, -10)

$$(x + 15)^2 + (y + 6)^2 = 25$$

709) Three points on the circle:
(1, -3), (7, 1), and (3, 7)

$$(x - 2)^2 + (y - 2)^2 = 26$$

710) Three points on the circle:
(16, -2), (6, 0), and (18, 0)

$$(x - 12)^2 + (y - 4)^2 = 52$$

711) Three points on the circle:
(-3, 12), (-6, -5), and (8, -5)

$$(x - 1)^2 + \left(y - \frac{43}{17}\right)^2 = \frac{30545}{289}$$

712) Three points on the circle:
(12, 9), (12, 13), and (16, 9)

$$(x - 14)^2 + (y - 11)^2 = 8$$

713) Three points on the circle:
(-1, 1), (4, -4), and (-10, -4)

$$(x + 3)^2 + (y + 6)^2 = 53$$

714) Three points on the circle:
(-8, -11), (-10, -9), and (-10, -13)

$$(x + 10)^2 + (y + 11)^2 = 4$$

715) Three points on the circle:
(7, 18), (10, 15), and (-1, 18)

$$(x - 3)^2 + (y - 11)^2 = 65$$

716) Three points on the circle:
(-5, 0), (-5, 10), and (-10, 5)

$$(x + 5)^2 + (y - 5)^2 = 25$$

717) Three points on the circle:
(-7, -16), (-4, -17), and (-4, -13)

$$(x + 5)^2 + (y + 15)^2 = 5$$

718) Three points on the circle:
(3, 7), (3, -15), and (-9, -15)

$$(x + 3)^2 + (y + 4)^2 = 157$$

719) Three points on the circle:
(-14, -10), (1, -9), and (-15, -9)

$$(x + 7)^2 + (y + 2)^2 = 113$$

720) Three points on the circle:
(-4, 12), (-10, -8), and (16, -8)

$$(x - 3)^2 + (y + 1)^2 = 218$$

721) Three points on the circle:
(3, -2), (1, -4), and (3, 8)

$$(x + 4)^2 + (y - 3)^2 = 74$$

722) Three points on the circle:
(-10, -8), (-10, 14), and (3, 1)

$$(x + 8)^2 + (y - 3)^2 = 125$$

723) Three points on the circle:
(3, -9), (15, -9), and (8, -2)

$$(x - 9)^2 + (y + 8)^2 = 37$$

724) Three points on the circle:
(-13, 6), (-3, 6), and (-13, 16)

$$(x + 8)^2 + (y - 11)^2 = 50$$

725) Three points on the circle:
(6, -2), (4, -4), and (8, -4)

$$(x - 6)^2 + (y + 4)^2 = 4$$

726) Three points on the circle:
(0, -1), (-10, -1), and (0, -11)

$$(x + 5)^2 + (y + 6)^2 = 50$$

727) Three points on the circle:
(13, 6), (14, 7), and (14, 13)

$$(x - 10)^2 + (y - 10)^2 = 25$$

728) Three points on the circle:
(10, 1), (-8, -3), and (-1, -16)

$$\left(x - \frac{275}{131}\right)^2 + \left(y + \frac{779}{131}\right)^2 = \frac{1899325}{17161}$$

729) Three points on the circle:
(-5, -15), (-1, -1), and (-14, 1)

$$\left(x + \frac{1613}{190}\right)^2 + \left(y + \frac{611}{95}\right)^2 = \frac{3089953}{36100}$$

730) Three points on the circle:
(-14, -15), (-11, -2), and (-1, -18)

$$(x + 6)^2 + (y + 10)^2 = 89$$

731) Three points on the circle:
(4, 2), (3, -15), and (-8, -18)

$$\left(x + \frac{247}{46}\right)^2 + \left(y + \frac{275}{46}\right)^2 = \frac{160225}{1058}$$

732) Three points on the circle:
(13, 1), (13, 17), and (18, 6)

$$(x - 10)^2 + (y - 9)^2 = 73$$

733) Three points on the circle:
(13, -6), (9, 4), and (6, 1)

$$(x - 11)^2 + (y + 1)^2 = 29$$

734) Three points on the circle:
(13, -4), (13, -6), and (10, -9)

$$(x - 9)^2 + (y + 5)^2 = 17$$

735) Three points on the circle:
(-11, -13), (-1, -3), and (-11, -3)

$$(x + 6)^2 + (y + 8)^2 = 50$$

736) Three points on the circle:
(17, -2), (10, -3), and (16, 5)

$$(x - 13)^2 + (y - 1)^2 = 25$$

737) Three points on the circle:
(-1, -4), (8, -5), and (15, 5)

$$\left(x - \frac{881}{194}\right)^2 + \left(y - \frac{945}{194}\right)^2 = \frac{2058733}{18818}$$

738) Three points on the circle:
(3, -4), (15, -4), and (16, -3)

$$(x - 9)^2 + (y - 3)^2 = 85$$

739) Three points on the circle:
(-10, 6), (-4, -2), and (-2, 12)

$$(x + 3)^2 + (y - 5)^2 = 50$$

740) Three points on the circle:
(-6, 7), (2, 15), and (-6, 15)

$$(x + 2)^2 + (y - 11)^2 = 32$$

741) Three points on the circle:
(4, -19), (-18, -7), and (16, -7)

$$(x + 1)^2 + (y + 2)^2 = 314$$

742) Three points on the circle:
(8, -1), (-4, 11), and (-4, -7)

$$(x + 1)^2 + (y - 2)^2 = 90$$

743) Three points on the circle:
(-8, 0), (-1, 7), and (8, -2)

$$x^2 + (y + 1)^2 = 65$$

744) Three points on the circle:
(15, 4), (20, 9), and (15, 14)

$$(x - 15)^2 + (y - 9)^2 = 25$$

745) Three points on the circle:
(11, 0), (1, 18), and (15, 14)

$$(x - 6)^2 + (y - 9)^2 = 106$$

746) Three points on the circle:
(9, -13), (13, -17), and (13, -9)

$$(x - 13)^2 + (y + 13)^2 = 16$$

747) Three points on the circle:
(11, 7), (11, -3), and (8, 4)

$$(x - 13)^2 + (y - 2)^2 = 29$$

748) Three points on the circle:
(2, 9), (8, 17), and (16, 11)

$$(x - 9)^2 + (y - 10)^2 = 50$$

749) Three points on the circle:
(-10, 3), (-5, -7), and (5, 11)

$$\left(x - \frac{9}{38}\right)^2 + \left(y - \frac{71}{38}\right)^2 = \frac{76585}{722}$$

750) Three points on the circle:
(14, 5), (10, 9), and (-6, -7)

$$(x - 4)^2 + (y + 1)^2 = 136$$

751) Three points on the circle:
(14, -1), (11, 2), and (17, 2)

$$(x - 14)^2 + (y - 2)^2 = 9$$

752) Three points on the circle:
(12, 18), (16, 18), and (9, 15)

$$(x - 14)^2 + (y - 13)^2 = 29$$

753) Three points on the circle:
(8, 8), (8, 10), and (13, 5)

$$(x - 12)^2 + (y - 9)^2 = 17$$

754) Three points on the circle:
(3, -17), (9, 3), and (16, -4)

$$(x - 6)^2 + (y + 7)^2 = 109$$

755) Three points on the circle:
(-4, -13), (-6, -11), and (14, 9)

$$(x - 5)^2 + (y + 2)^2 = 202$$

756) Three points on the circle:
(-6, -10), (-12, -4), and (-12, 2)

$$(x + 3)^2 + (y + 1)^2 = 90$$

757) Three points on the circle:
(15, 1), (-17, 1), and (-1, -15)

$$(x + 1)^2 + (y - 1)^2 = 256$$

758) Three points on the circle:
(3, 17), (3, -9), and (1, -9)

$$(x - 2)^2 + (y - 4)^2 = 170$$

759) Three points on the circle:
(-1, 8), (1, -4), and (-17, -2)

$$\left(x + \frac{402}{53}\right)^2 + \left(y - \frac{39}{53}\right)^2 = \frac{270026}{2809}$$

760) Three points on the circle:
(7, 7), (1, 4), and (17, -8)

$$\left(x - \frac{33}{4}\right)^2 + (y + 3)^2 = \frac{1625}{16}$$

761) Three points on the circle:
(14, 4), (-5, 17), and (-7, -7)

$$\left(x - \frac{90}{241}\right)^2 + \left(y - \frac{1077}{241}\right)^2 = \frac{10797425}{58081}$$

762) Three points on the circle:
(-11, -12), (-11, 8), and (3, -12)

$$(x + 4)^2 + (y + 2)^2 = 149$$

763) Three points on the circle:
(-10, -8), (1, 3), and (-17, -1)

$$(x + 8)^2 + (y - 1)^2 = 85$$

764) Three points on the circle:
(16, -3), (10, 3), and (4, -3)

$$(x - 10)^2 + (y + 3)^2 = 36$$

765) Three points on the circle:
(-11, 10), (-9, -14), and (13, -14)

$$(x - 2)^2 + (y + 1)^2 = 290$$

766) Three points on the circle:
(6, -6), (5, -7), and (-4, -6)

$$(x - 1)^2 + (y + 2)^2 = 41$$

767) Three points on the circle:
(-2, 2), (7, -1), and (1, 11)

$$(x - 4)^2 + (y - 5)^2 = 45$$

768) Three points on the circle:
(-3, 15), (-16, 2), and (18, 2)

$$(x - 1)^2 + (y + 2)^2 = 305$$

769) Three points on the circle:
(-6, -2), (-1, -7), and (12, -2)

$$(x - 3)^2 + (y - 2)^2 = 97$$

770) Three points on the circle:
(4, 15), (-15, -10), and (-19, 7)

$$\left(x + \frac{3553}{846}\right)^2 + \left(y - \frac{1279}{846}\right)^2 = \frac{89166445}{357858}$$

771) Three points on the circle:
(-4, 13), (-6, 13), and (3, 6)

$$(x + 5)^2 + (y - 5)^2 = 65$$

772) Three points on the circle:
(8, -18), (17, -9), and (-3, -9)

$$(x - 7)^2 + (y + 8)^2 = 101$$

773) Three points on the circle:
(10, 8), (6, 0), and (4, 2)

$$(x - 8)^2 + (y - 4)^2 = 20$$

774) Three points on the circle:
(12, -6), (-4, 10), and (-4, 0)

$$(x - 7)^2 + (y - 5)^2 = 146$$

775) Three points on the circle:
(2, -4), (4, -4), and (3, -5)

$$(x - 3)^2 + (y + 4)^2 = 1$$

776) Three points on the circle:
(-3, 12), (-2, 11), and (-3, 10)

$$(x + 3)^2 + (y - 11)^2 = 1$$

777) Three points on the circle:
(1, 2), (1, 8), and (2, 7)

$$(x + 1)^2 + (y - 5)^2 = 13$$

778) Three points on the circle:
(8, -7), (-6, 17), and (-6, -7)

$$(x - 1)^2 + (y - 5)^2 = 193$$

779) Three points on the circle:
(1, -3), (-15, -9), and (-4, 2)

$$(x + 7)^2 + (y + 6)^2 = 73$$

780) Three points on the circle:
(-9, 9), (5, 9), and (4, -4)

$$(x + 2)^2 + (y - 3)^2 = 85$$

781) Three points on the circle:
(5, 4), (0, -1), and (14, -1)

$$(x - 7)^2 + (y + 3)^2 = 53$$

782) Three points on the circle:
(13, -6), (13, 0), and (11, -4)

$$(x - 14)^2 + (y + 3)^2 = 10$$

783) Three points on the circle:
(6, 2), (0, 12), and (-2, 4)

$$(x - 3)^2 + (y - 7)^2 = 34$$

784) Three points on the circle:
(3, 9), (-3, 3), and (-3, -3)

$$(x - 6)^2 + y^2 = 90$$

785) Three points on the circle:
(-1, -6), (6, 1), and (6, -5)

$$(x - 2)^2 + (y + 2)^2 = 25$$

786) Three points on the circle:
(-1, -17), (-12, -8), and (8, -8)

$$(x + 2)^2 + (y + 7)^2 = 101$$

787) Three points on the circle:
(11, 5), (14, 2), and (8, 2)

$$(x - 11)^2 + (y - 2)^2 = 9$$

788) Three points on the circle:
(3, -7), (7, -7), and (8, -8)

$$(x - 5)^2 + (y + 10)^2 = 13$$

789) Three points on the circle:
(5, 19), (-4, 8), and (-2, 16)

$$\left(x - \frac{117}{25}\right)^2 + \left(y - \frac{252}{25}\right)^2 = \frac{49793}{625}$$

790) Three points on the circle:
(19, -6), (4, 13), and (16, -12)

$$\left(x - \frac{405}{98}\right)^2 + \left(y + \frac{227}{98}\right)^2 = \frac{1126585}{4802}$$

791) Three points on the circle:
(17, -9), (2, 6), and (-5, -9)

$$(x - 6)^2 + (y + 5)^2 = 137$$

792) Three points on the circle:
(-1, -4), (4, -5), and (11, 15)

$$\left(x - \frac{785}{214}\right)^2 + \left(y - \frac{1357}{214}\right)^2 = \frac{2947685}{22898}$$

793) Three points on the circle:
(-16, 3), (7, -2), and (2, -9)

$$\left(x + \frac{137}{31}\right)^2 + \left(y - \frac{27}{31}\right)^2 = \frac{133237}{961}$$

794) Three points on the circle:
(0, 12), (14, -2), and (-16, -2)

$$(x + 1)^2 + (y + 3)^2 = 226$$

795) Three points on the circle:
(-11, 3), (-9, 1), and (-13, 1)

$$(x + 11)^2 + (y - 1)^2 = 4$$

796) Three points on the circle:
(9, 12), (0, 13), and (8, 3)

$$(x - 4)^2 + (y - 8)^2 = 41$$

797) Three points on the circle:
(-1, 9), (-5, 5), and (1, 7)

$$(x + 2)^2 + (y - 6)^2 = 10$$

798) Three points on the circle:
(14, -6), (14, -10), and (2, -10)

$$(x - 8)^2 + (y + 8)^2 = 40$$

799) Three points on the circle:
(-10, -17), (0, -7), and (0, -15)

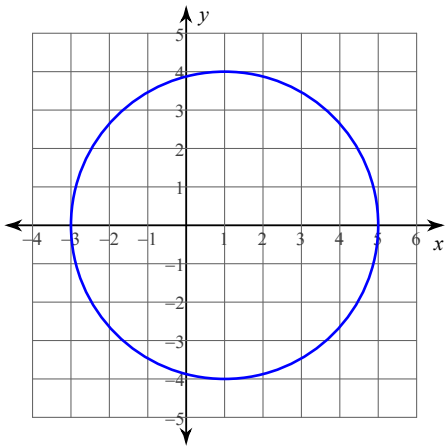
$$(x + 6)^2 + (y + 11)^2 = 52$$

800) Three points on the circle:
(6, -3), (-9, 8), and (7, 14)

$$\left(x - \frac{125}{133}\right)^2 + \left(y - \frac{775}{133}\right)^2 = \frac{1831205}{17689}$$

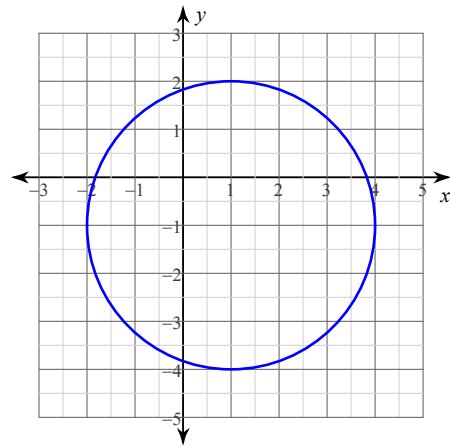
Use the drawn graph to make an equation for that specific circle

801)



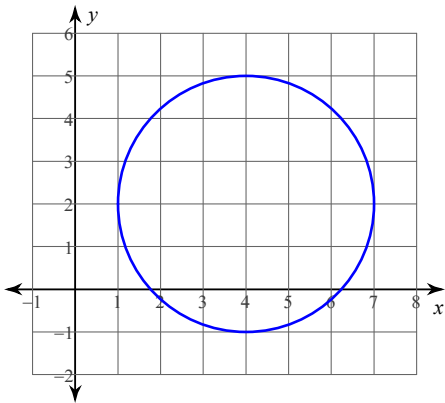
$$(x - 1)^2 + y^2 = 16$$

802)



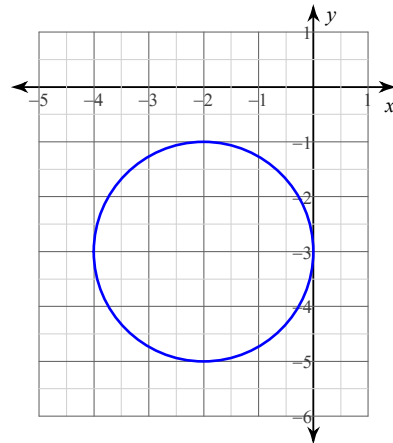
$$(x - 1)^2 + (y + 1)^2 = 9$$

803)



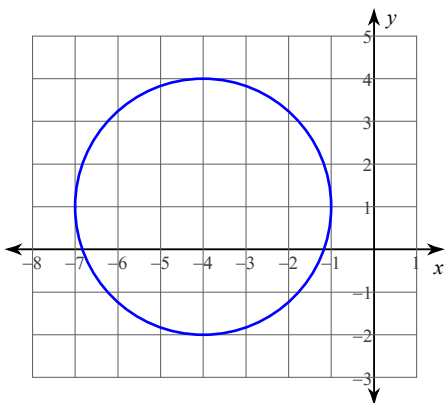
$$(x - 4)^2 + (y - 2)^2 = 9$$

804)



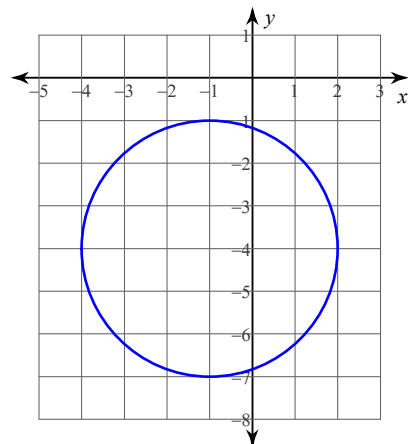
$$(x + 2)^2 + (y + 3)^2 = 4$$

805)



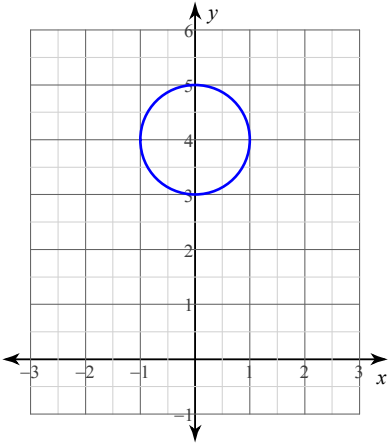
$$(x + 4)^2 + (y - 1)^2 = 9$$

806)



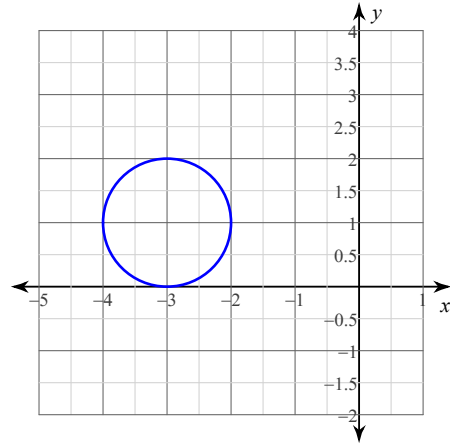
$$(x + 1)^2 + (y + 4)^2 = 9$$

807)



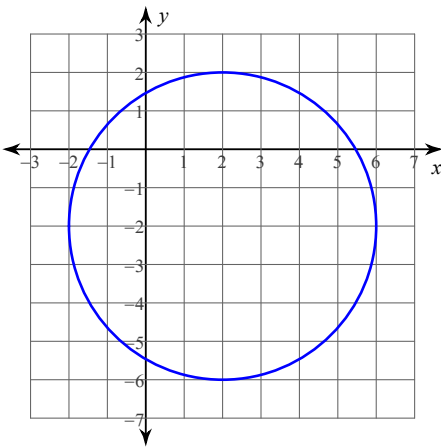
$$x^2 + (y - 4)^2 = 1$$

808)



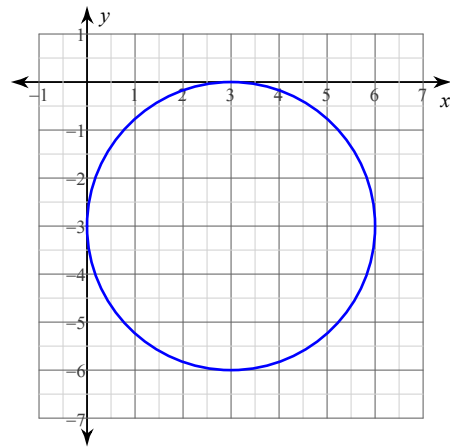
$$(x + 3)^2 + (y - 1)^2 = 1$$

809)



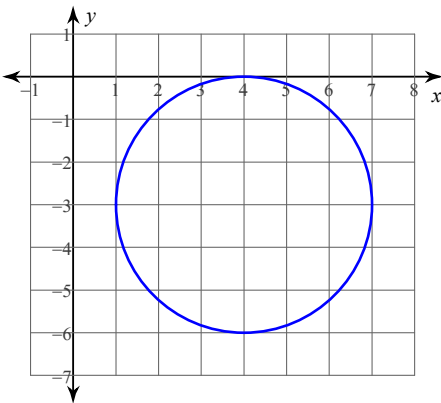
$$(x - 2)^2 + (y + 2)^2 = 16$$

810)



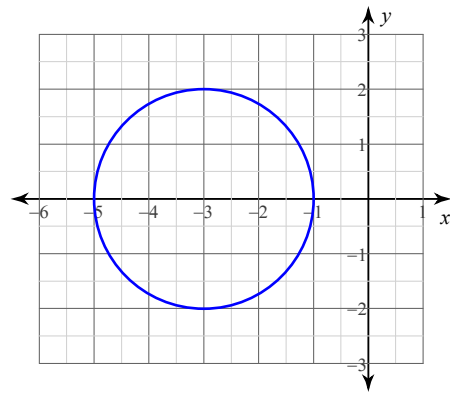
$$(x - 3)^2 + (y + 3)^2 = 9$$

811)



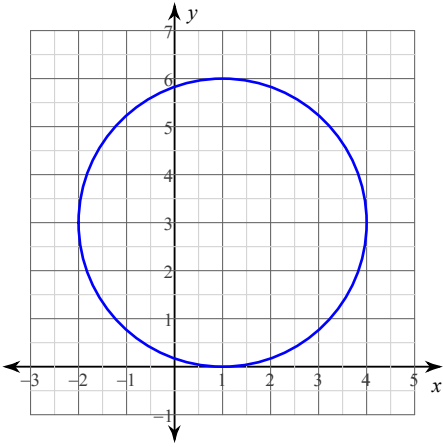
$$(x - 4)^2 + (y + 3)^2 = 9$$

812)



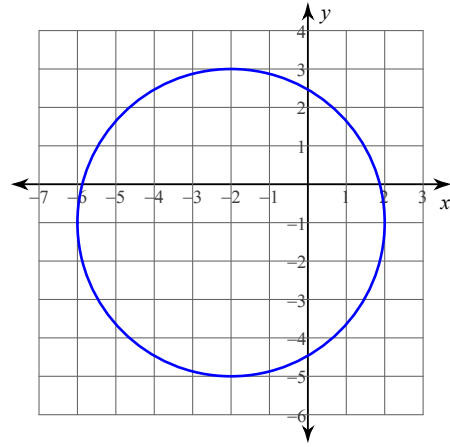
$$(x + 3)^2 + y^2 = 4$$

813)



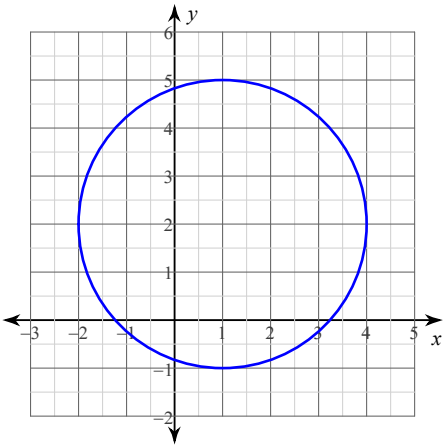
$$(x - 1)^2 + (y - 3)^2 = 9$$

814)



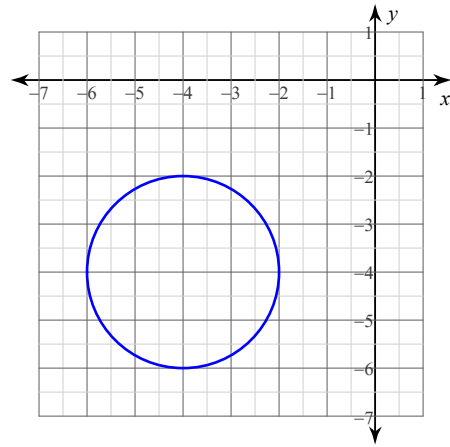
$$(x + 2)^2 + (y + 1)^2 = 16$$

815)



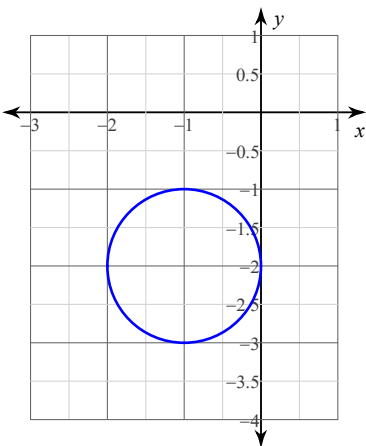
$$(x - 1)^2 + (y - 2)^2 = 9$$

816)



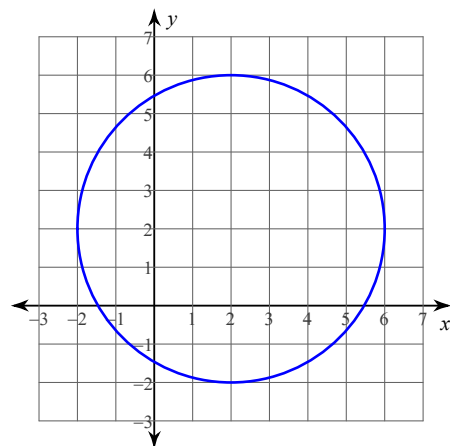
$$(x + 4)^2 + (y + 4)^2 = 4$$

817)



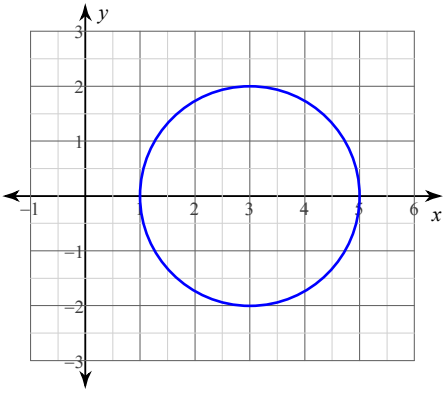
$$(x + 1)^2 + (y + 2)^2 = 1$$

818)



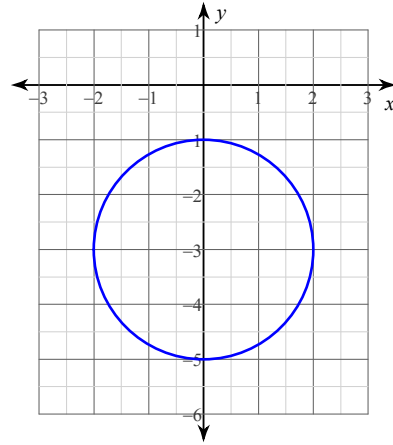
$$(x - 2)^2 + (y - 2)^2 = 16$$

819)



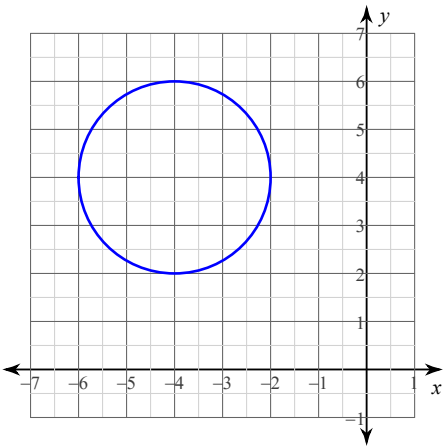
$$(x - 3)^2 + y^2 = 4$$

820)



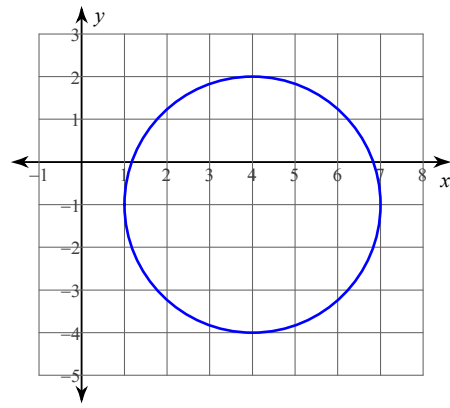
$$x^2 + (y + 3)^2 = 4$$

821)



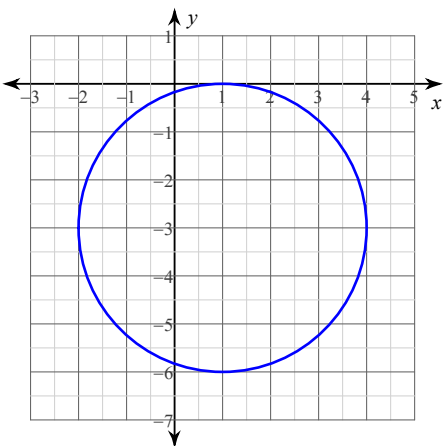
$$(x + 4)^2 + (y - 4)^2 = 4$$

822)



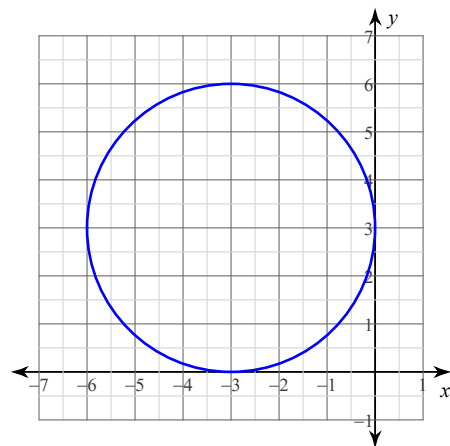
$$(x - 4)^2 + (y + 1)^2 = 9$$

823)



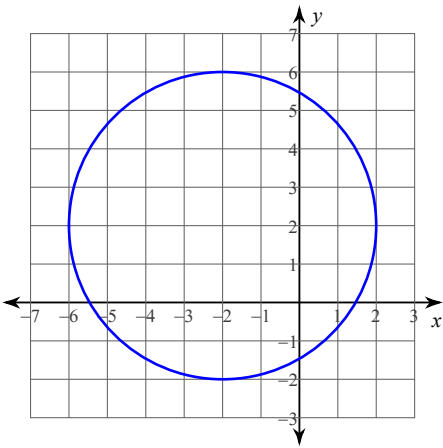
$$(x - 1)^2 + (y + 3)^2 = 9$$

824)



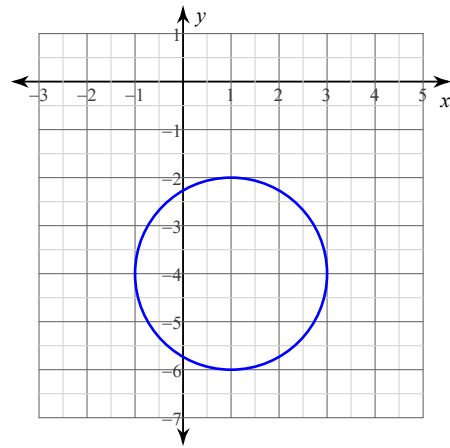
$$(x + 3)^2 + (y - 3)^2 = 9$$

825)



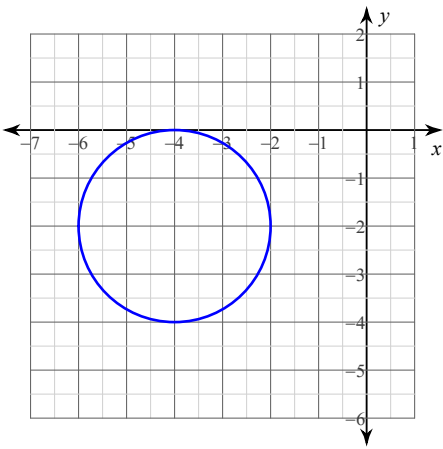
$$(x + 2)^2 + (y - 2)^2 = 16$$

826)



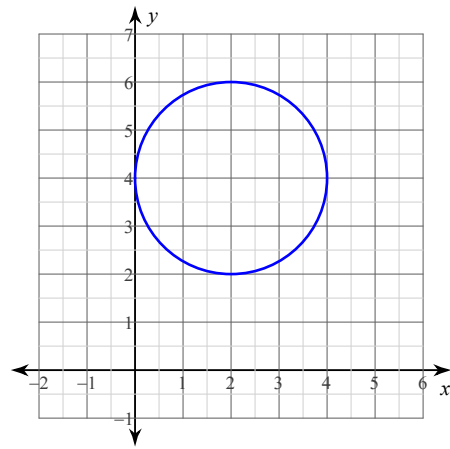
$$(x - 1)^2 + (y + 4)^2 = 4$$

827)



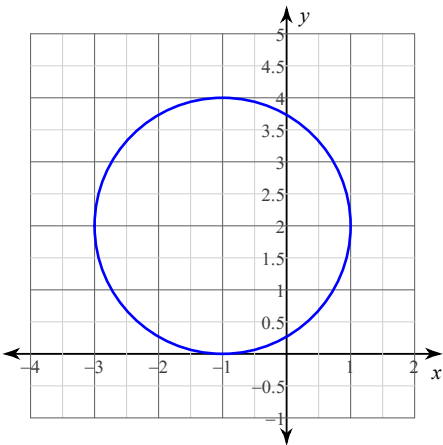
$$(x + 4)^2 + (y + 2)^2 = 4$$

828)



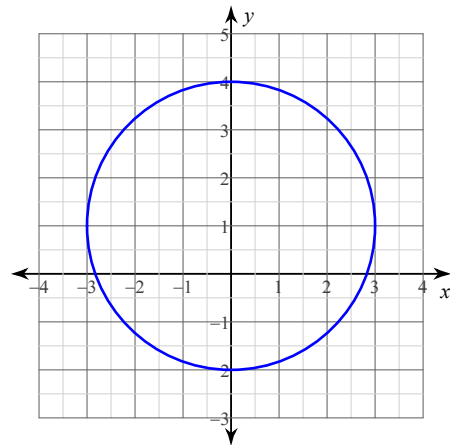
$$(x - 2)^2 + (y - 4)^2 = 4$$

829)



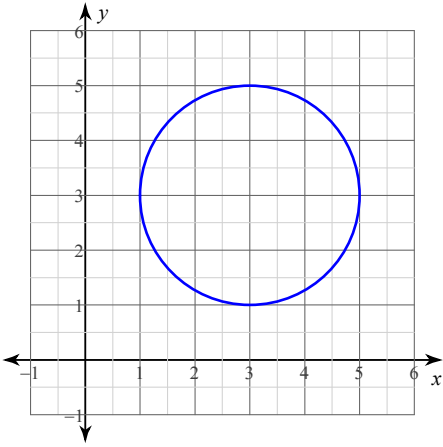
$$(x + 1)^2 + (y - 2)^2 = 4$$

830)



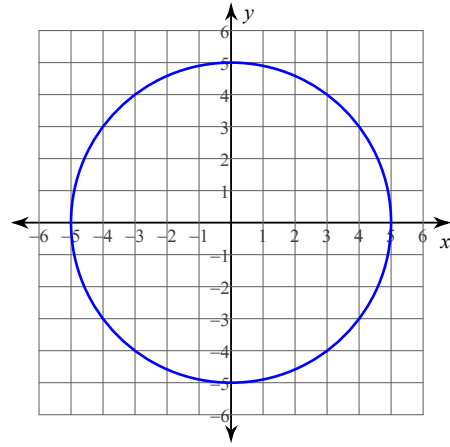
$$x^2 + (y - 1)^2 = 9$$

831)



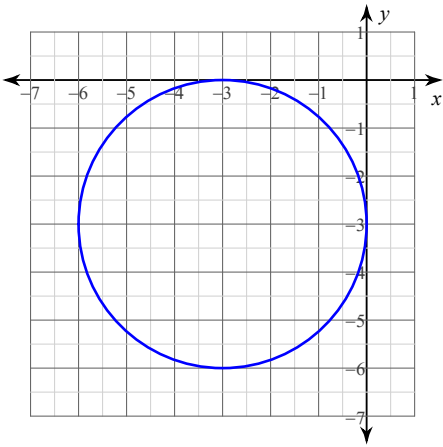
$$(x - 3)^2 + (y - 3)^2 = 4$$

832)



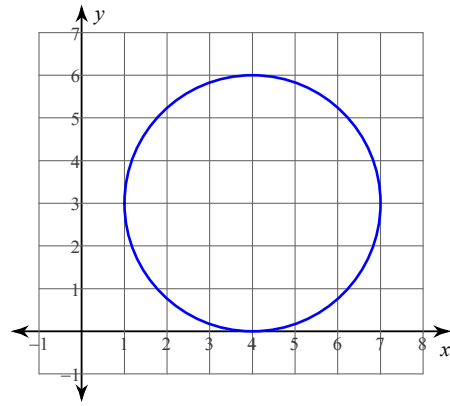
$$x^2 + y^2 = 25$$

833)



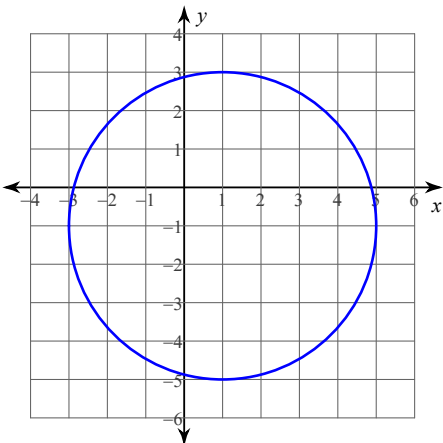
$$(x + 3)^2 + (y + 3)^2 = 9$$

834)



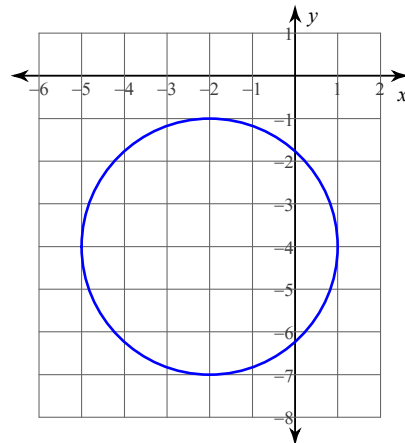
$$(x - 4)^2 + (y - 3)^2 = 9$$

835)



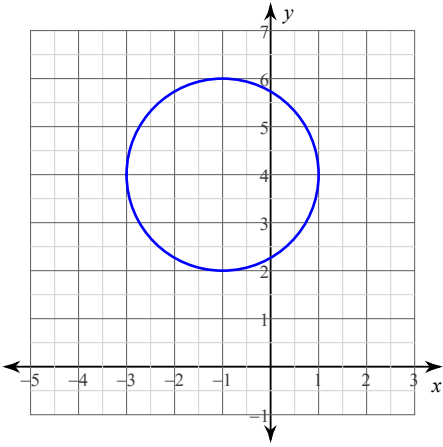
$$(x - 1)^2 + (y + 1)^2 = 16$$

836)



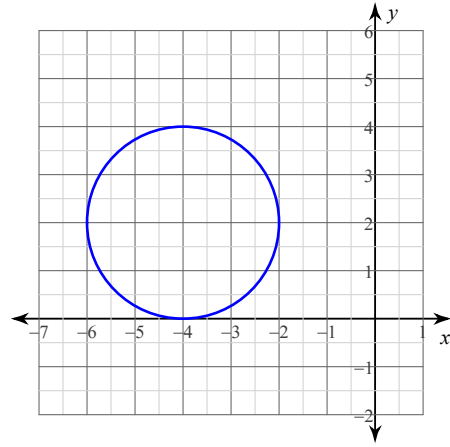
$$(x + 2)^2 + (y + 4)^2 = 9$$

837)



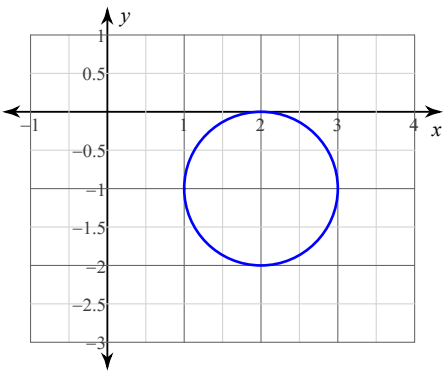
$$(x + 1)^2 + (y - 4)^2 = 4$$

838)



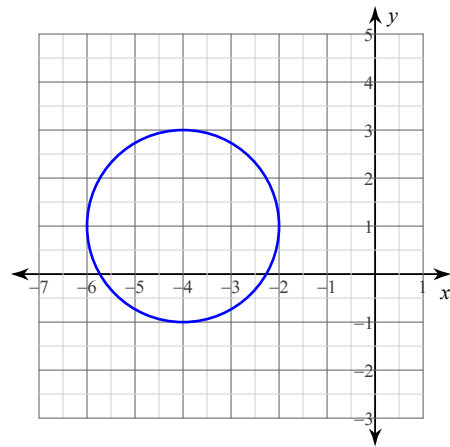
$$(x + 4)^2 + (y - 2)^2 = 4$$

839)



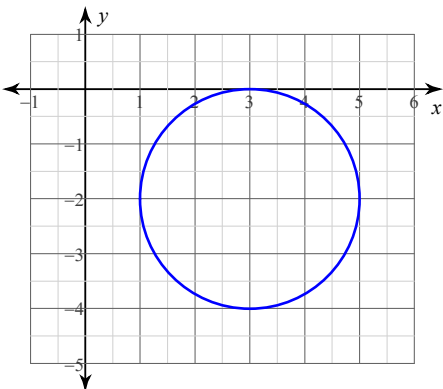
$$(x - 2)^2 + (y + 1)^2 = 1$$

840)



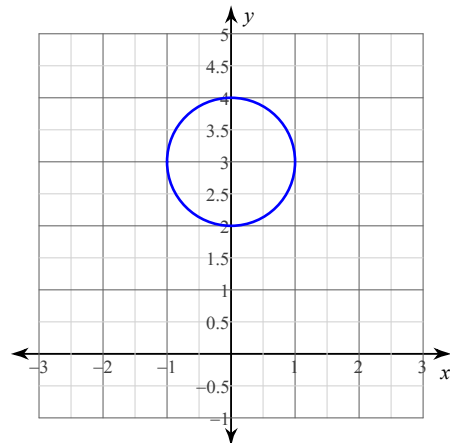
$$(x + 4)^2 + (y - 1)^2 = 4$$

841)



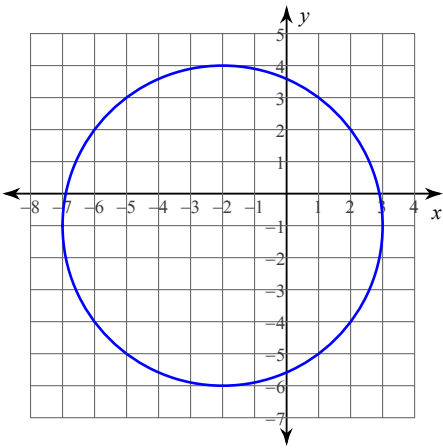
$$(x - 3)^2 + (y + 2)^2 = 4$$

842)



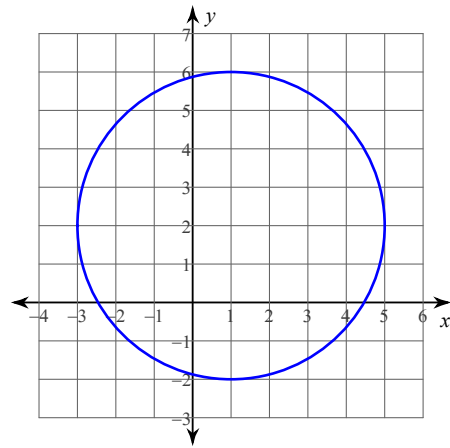
$$x^2 + (y - 3)^2 = 1$$

843)



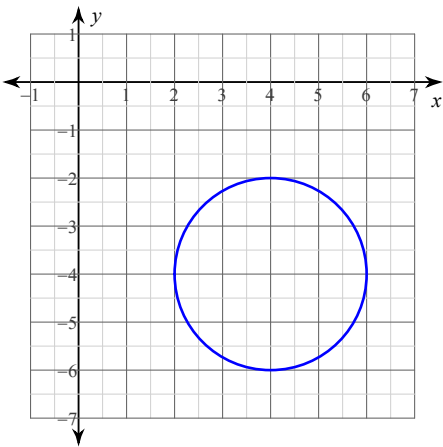
$$(x + 2)^2 + (y + 1)^2 = 25$$

844)



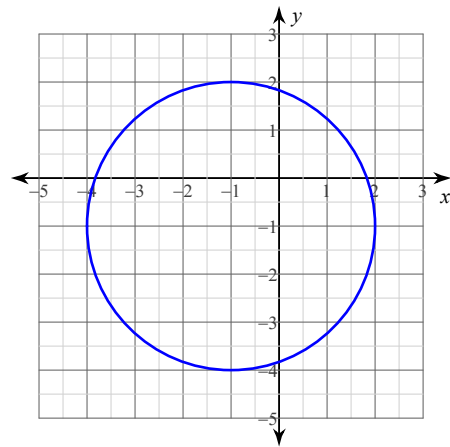
$$(x - 1)^2 + (y - 2)^2 = 16$$

845)



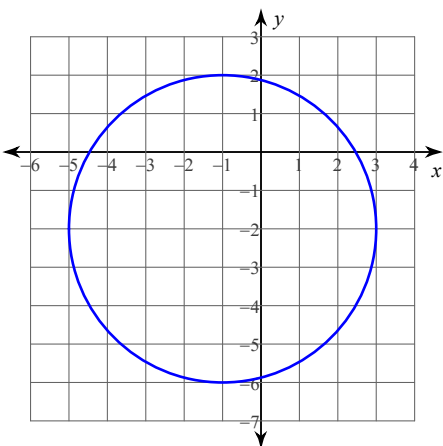
$$(x - 4)^2 + (y + 4)^2 = 4$$

846)



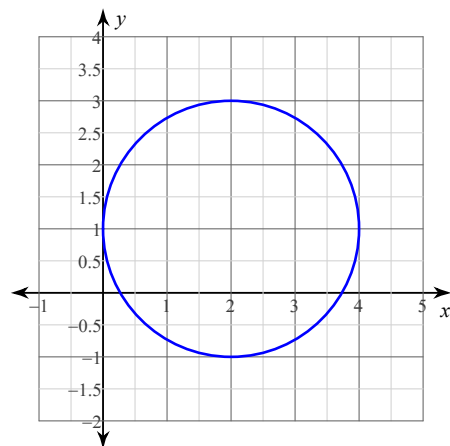
$$(x + 1)^2 + (y + 1)^2 = 9$$

847)



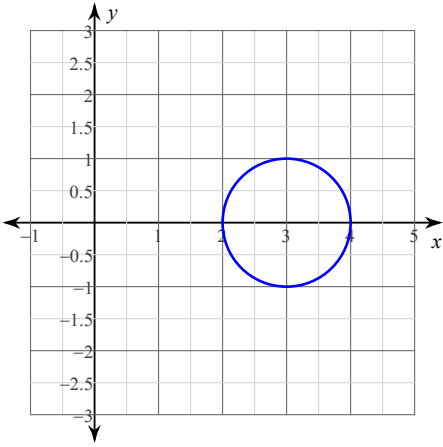
$$(x + 1)^2 + (y + 2)^2 = 16$$

848)



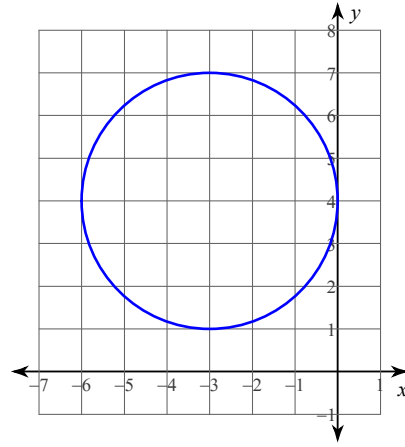
$$(x - 2)^2 + (y - 1)^2 = 4$$

849)



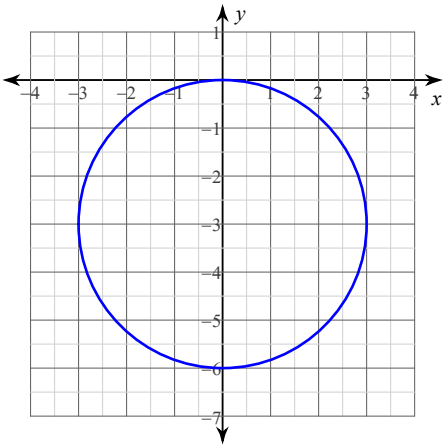
$$(x - 3)^2 + y^2 = 1$$

850)



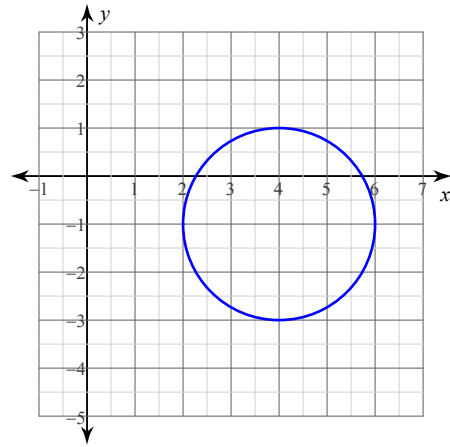
$$(x + 3)^2 + (y - 4)^2 = 9$$

851)



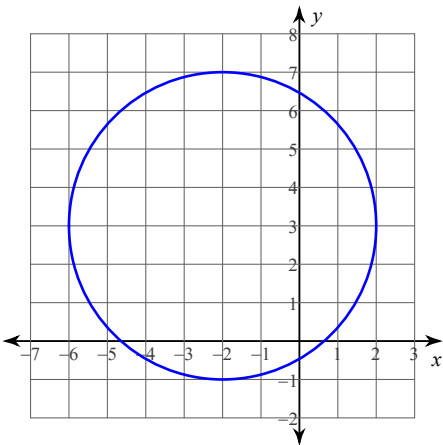
$$x^2 + (y + 3)^2 = 9$$

852)



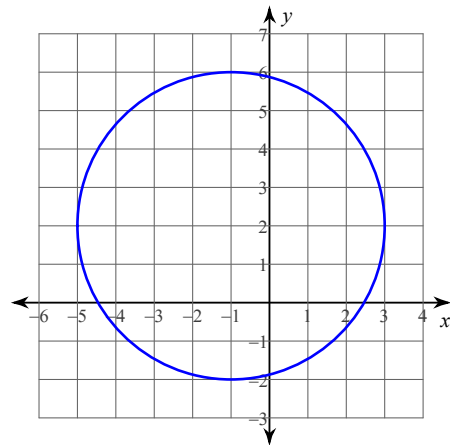
$$(x - 4)^2 + (y + 1)^2 = 4$$

853)



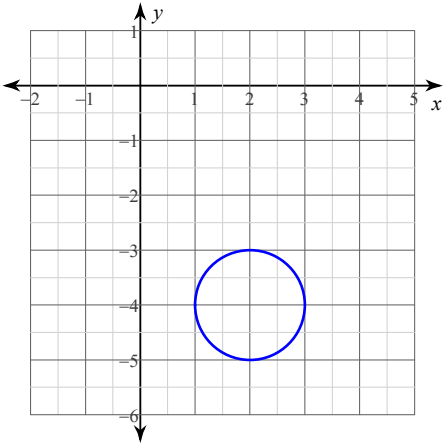
$$(x + 2)^2 + (y - 3)^2 = 16$$

854)



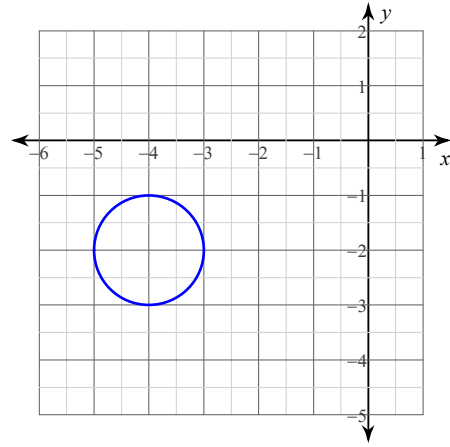
$$(x + 1)^2 + (y - 2)^2 = 16$$

855)



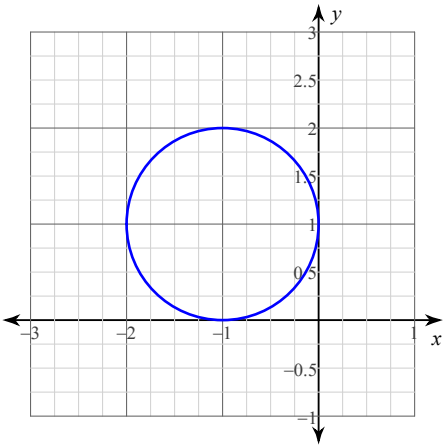
$$(x - 2)^2 + (y + 4)^2 = 1$$

856)



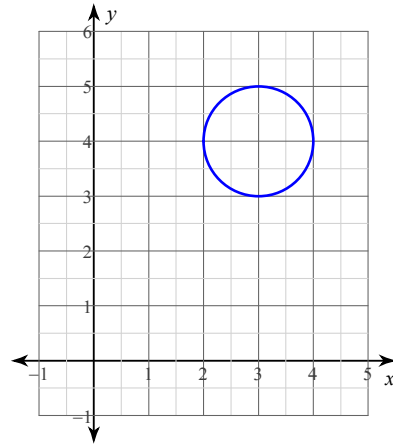
$$(x + 4)^2 + (y + 2)^2 = 1$$

857)



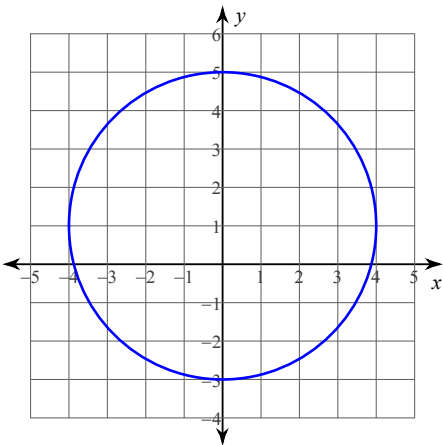
$$(x + 1)^2 + (y - 1)^2 = 1$$

858)



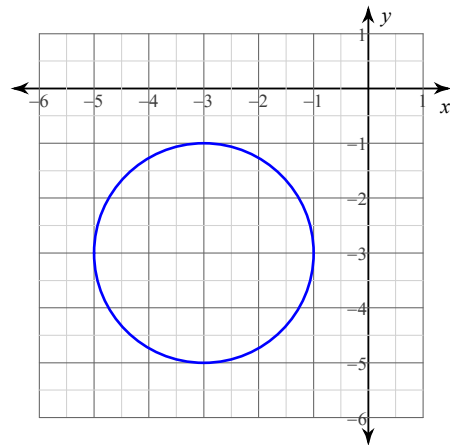
$$(x - 3)^2 + (y - 4)^2 = 1$$

859)



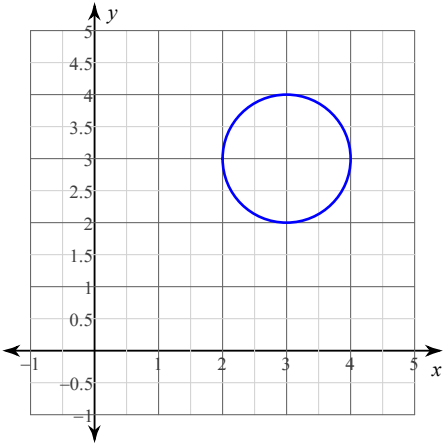
$$x^2 + (y - 1)^2 = 16$$

860)



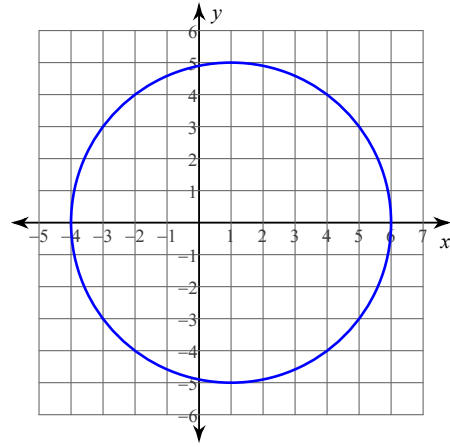
$$(x + 3)^2 + (y + 3)^2 = 4$$

861)



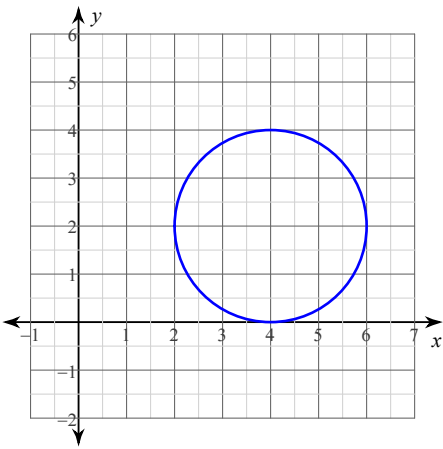
$$(x - 3)^2 + (y - 3)^2 = 1$$

862)



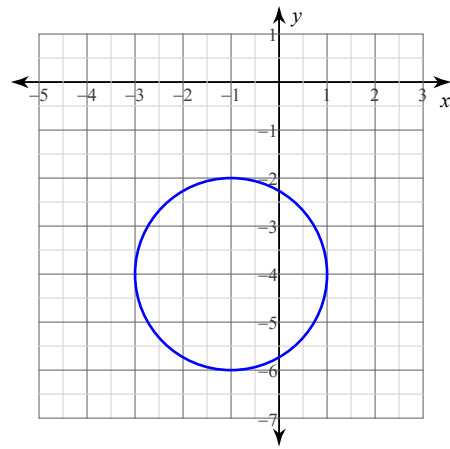
$$(x - 1)^2 + y^2 = 25$$

863)



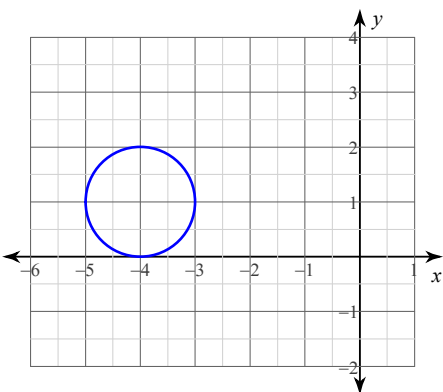
$$(x - 4)^2 + (y - 2)^2 = 4$$

864)



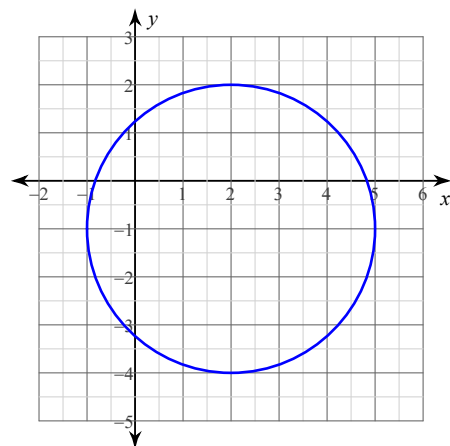
$$(x + 1)^2 + (y + 4)^2 = 4$$

865)



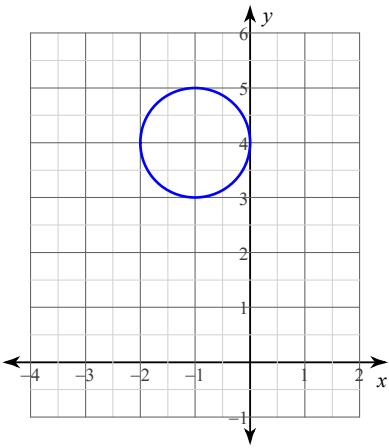
$$(x + 4)^2 + (y - 1)^2 = 1$$

866)



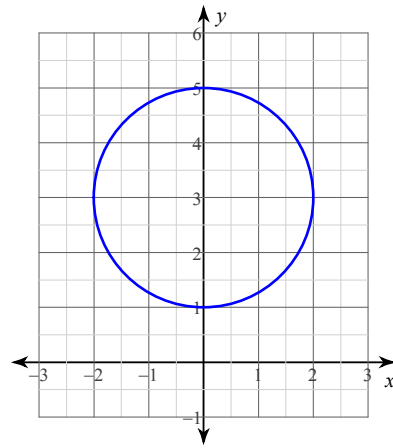
$$(x - 2)^2 + (y + 1)^2 = 9$$

867)



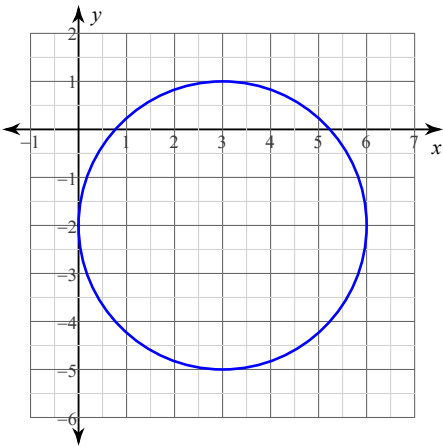
$$(x + 1)^2 + (y - 4)^2 = 1$$

868)



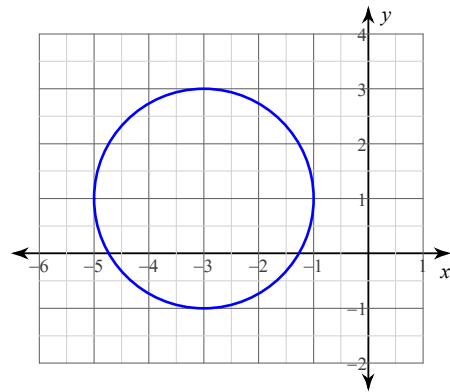
$$x^2 + (y - 3)^2 = 4$$

869)



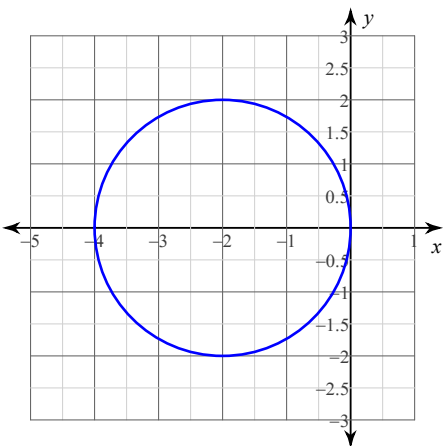
$$(x - 3)^2 + (y + 2)^2 = 9$$

870)



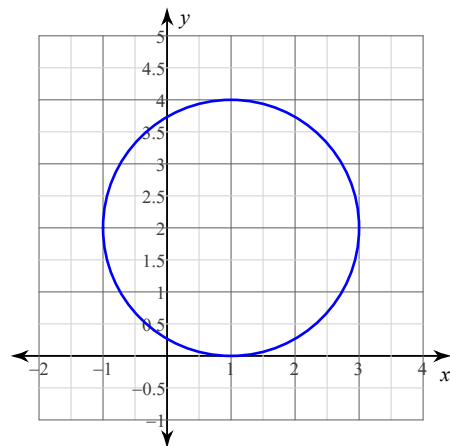
$$(x + 3)^2 + (y - 1)^2 = 4$$

871)



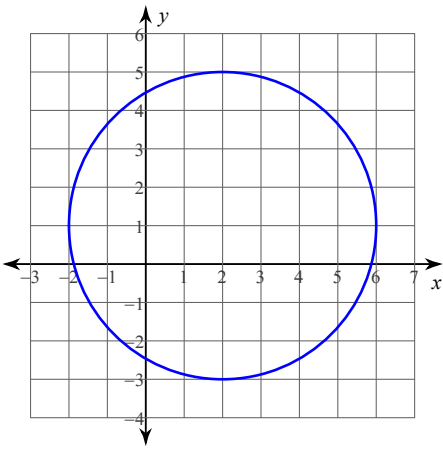
$$(x + 2)^2 + y^2 = 4$$

872)



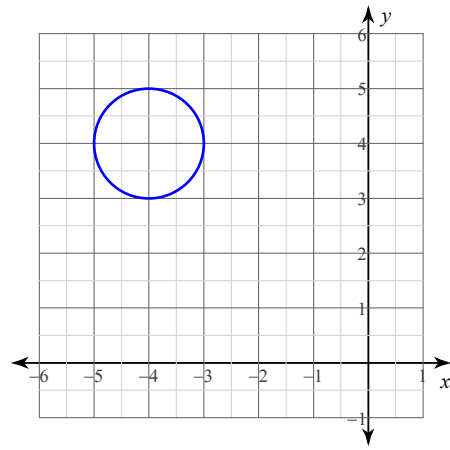
$$(x - 1)^2 + (y - 2)^2 = 4$$

873)



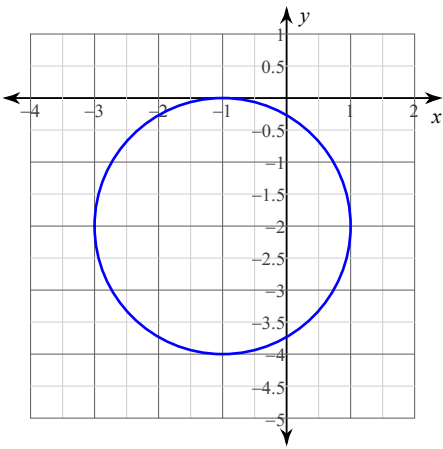
$$(x - 2)^2 + (y - 1)^2 = 16$$

874)



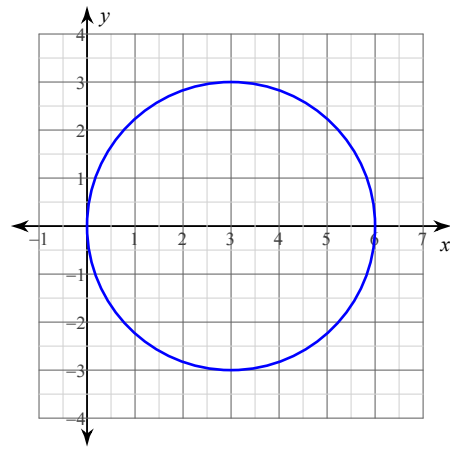
$$(x + 4)^2 + (y - 4)^2 = 1$$

875)



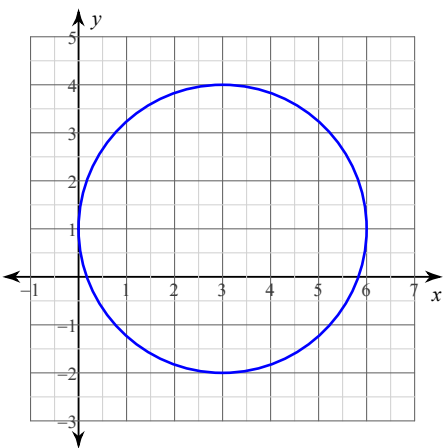
$$(x + 1)^2 + (y + 2)^2 = 4$$

876)



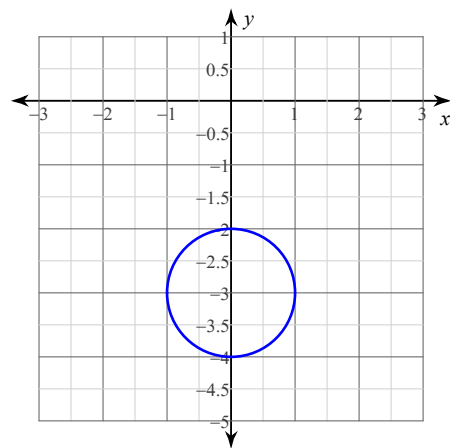
$$(x - 3)^2 + y^2 = 9$$

877)



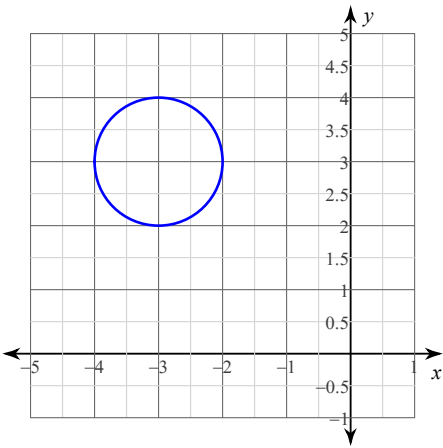
$$(x - 3)^2 + (y - 1)^2 = 9$$

878)



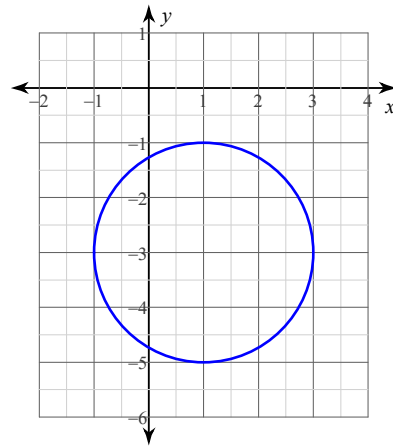
$$x^2 + (y + 3)^2 = 1$$

879)



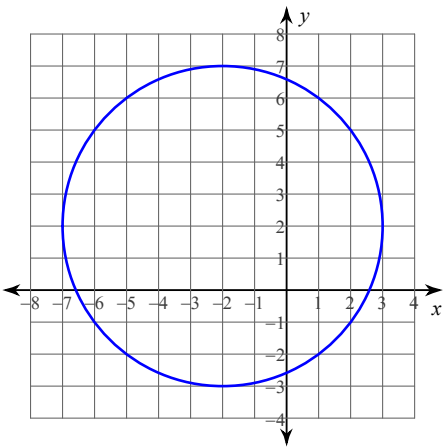
$$(x + 3)^2 + (y - 3)^2 = 1$$

880)



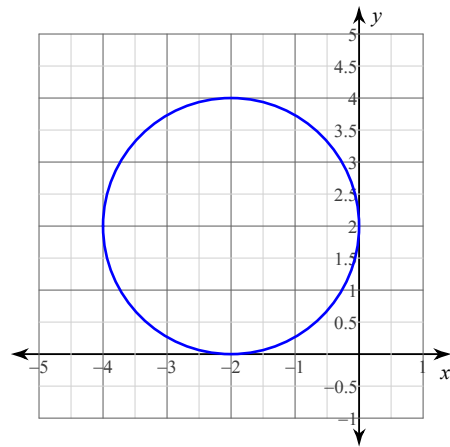
$$(x - 1)^2 + (y + 3)^2 = 4$$

881)



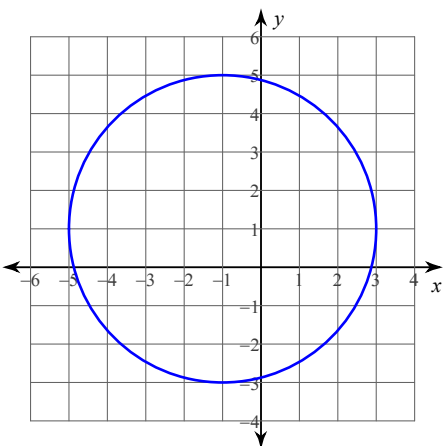
$$(x + 2)^2 + (y - 2)^2 = 25$$

882)



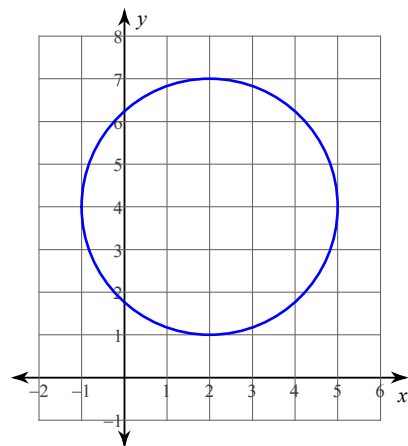
$$(x + 2)^2 + (y - 2)^2 = 4$$

883)



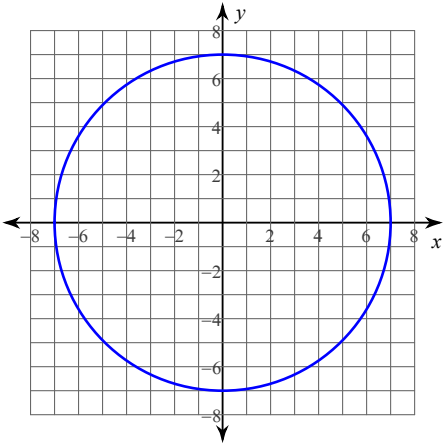
$$(x + 1)^2 + (y - 1)^2 = 16$$

884)



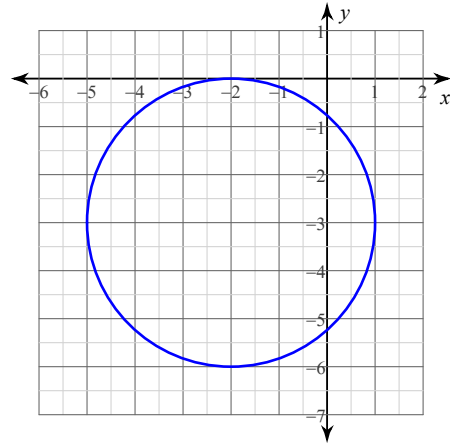
$$(x - 2)^2 + (y - 4)^2 = 9$$

885)



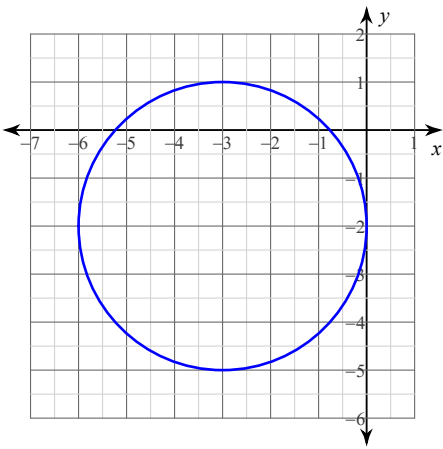
$$x^2 + y^2 = 49$$

886)



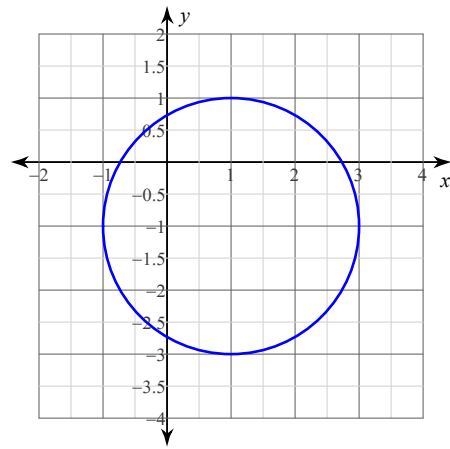
$$(x + 2)^2 + (y + 3)^2 = 9$$

887)



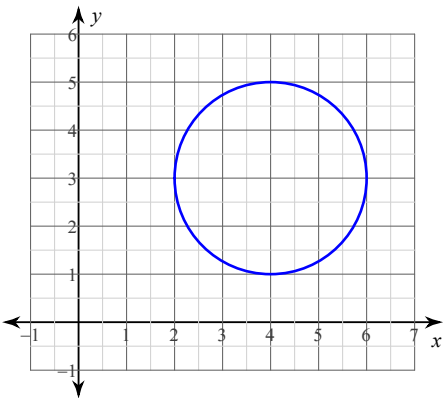
$$(x + 3)^2 + (y + 2)^2 = 9$$

888)



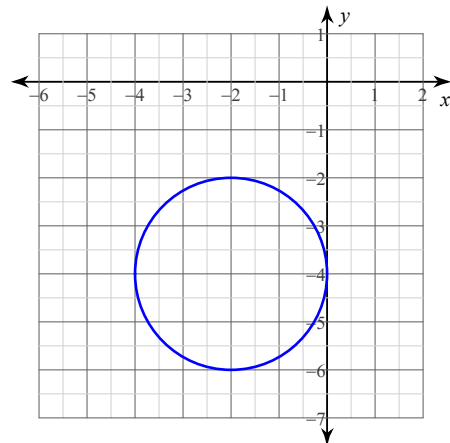
$$(x - 1)^2 + (y + 1)^2 = 4$$

889)



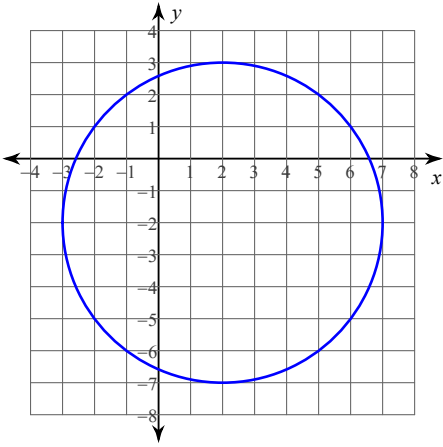
$$(x - 4)^2 + (y - 3)^2 = 4$$

890)



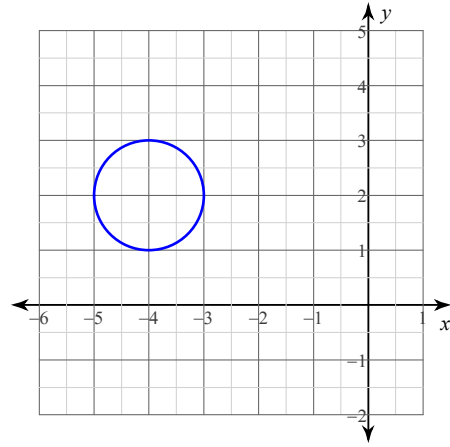
$$(x + 2)^2 + (y + 4)^2 = 4$$

891)



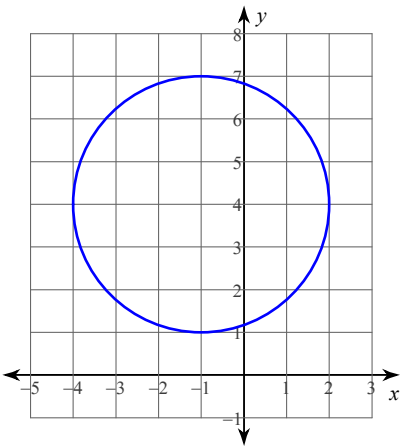
$$(x - 2)^2 + (y + 2)^2 = 25$$

892)



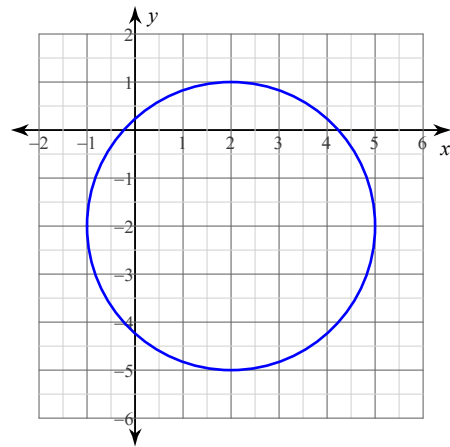
$$(x + 4)^2 + (y - 2)^2 = 1$$

893)



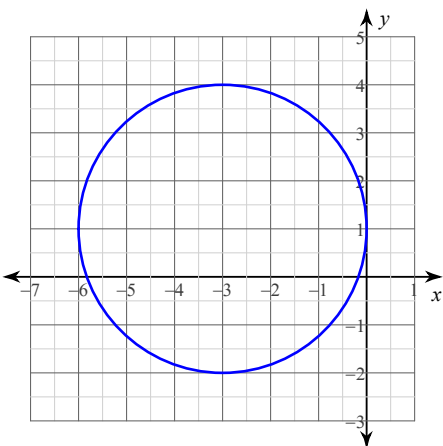
$$(x + 1)^2 + (y - 4)^2 = 9$$

894)



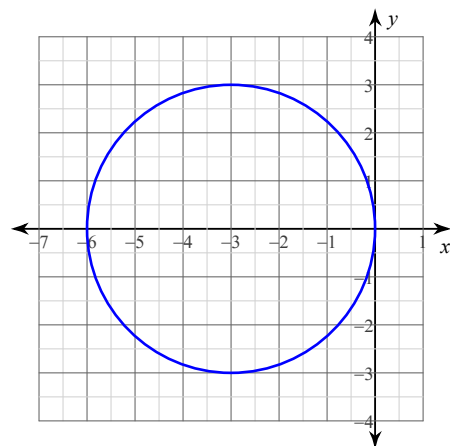
$$(x - 2)^2 + (y + 2)^2 = 9$$

895)



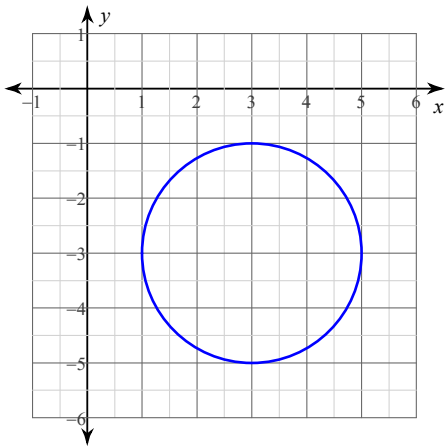
$$(x + 3)^2 + (y - 1)^2 = 9$$

896)



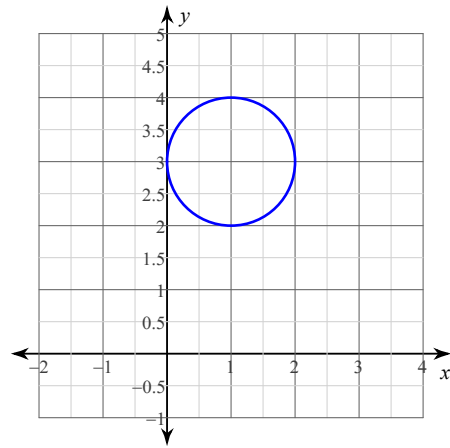
$$(x + 3)^2 + y^2 = 9$$

897)



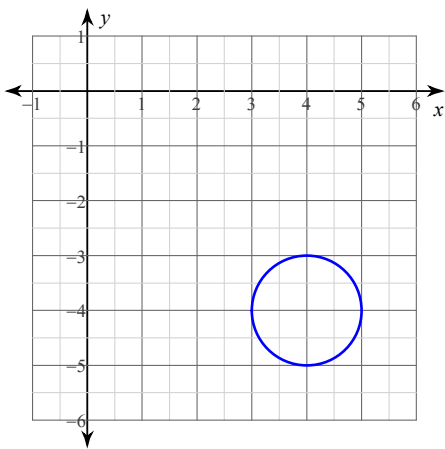
$$(x - 3)^2 + (y + 3)^2 = 4$$

898)



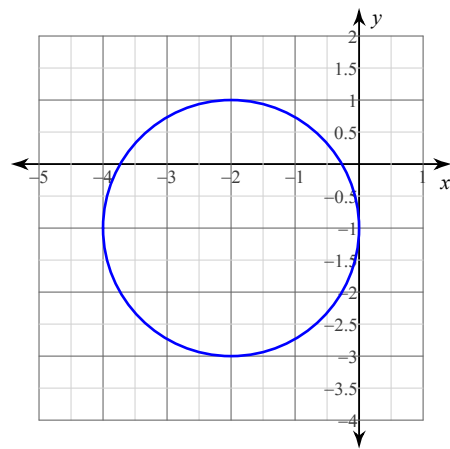
$$(x - 1)^2 + (y - 3)^2 = 1$$

899)



$$(x - 4)^2 + (y + 4)^2 = 1$$

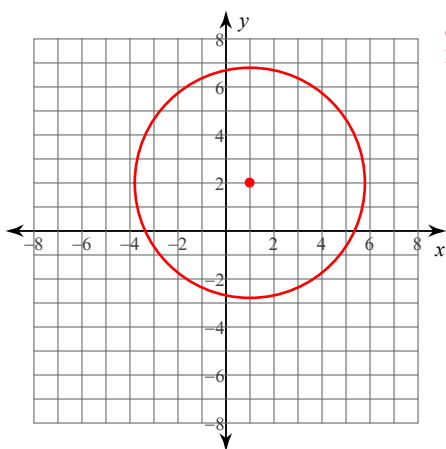
900)



$$(x + 2)^2 + (y + 1)^2 = 4$$

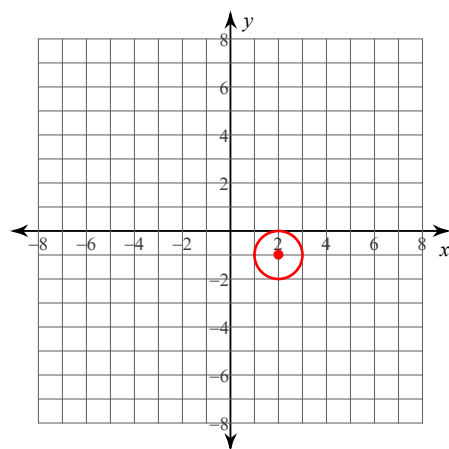
Find the center and radius and sketch a graph

901) $(x - 1)^2 + (y - 2)^2 = 23$



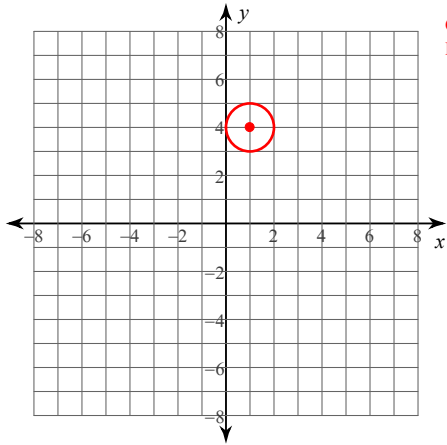
Center: $(1, 2)$
Radius: $\sqrt{23}$

902) $(x - 2)^2 + (y + 1)^2 = 1$



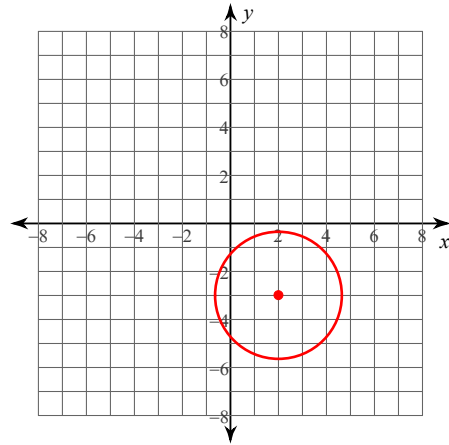
Center: $(2, -1)$
Radius: 1

$$903) (x - 1)^2 + (y - 4)^2 = 1$$



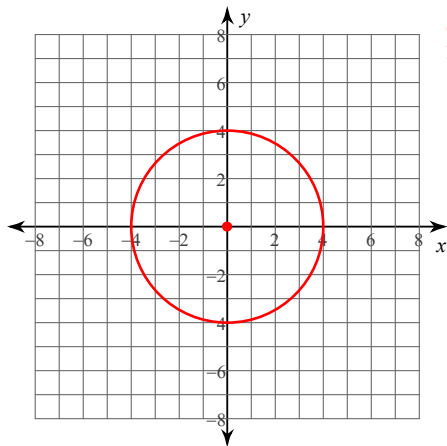
Center: (1, 4)
Radius: 1

$$904) (x - 2)^2 + (y + 3)^2 = 7$$



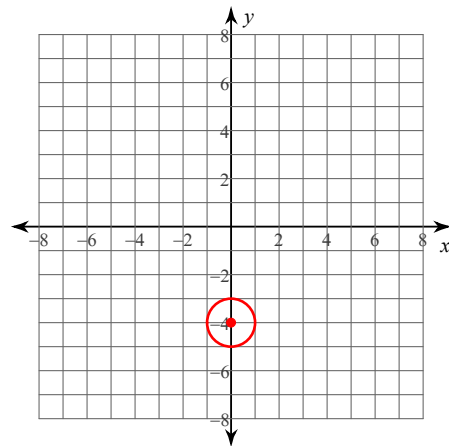
Center: (2, -3)
Radius: $\sqrt{7}$

$$905) x^2 + y^2 = 16$$



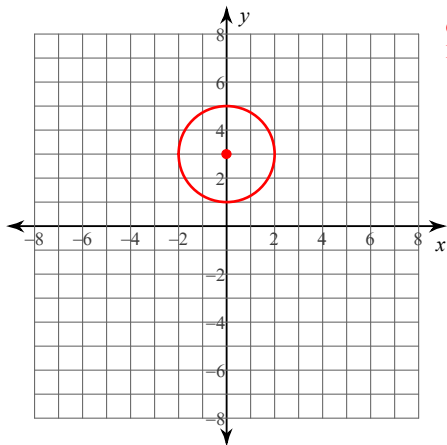
Center: (0, 0)
Radius: 4

$$906) x^2 + (y + 4)^2 = 1$$



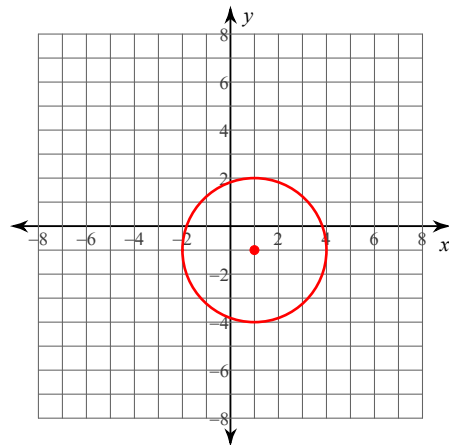
Center: (0, -4)
Radius: 1

$$907) x^2 + (y - 3)^2 = 4$$



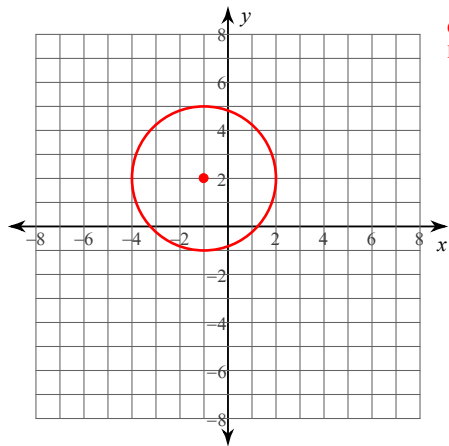
Center: (0, 3)
Radius: 2

$$908) (x - 1)^2 + (y + 1)^2 = 9$$



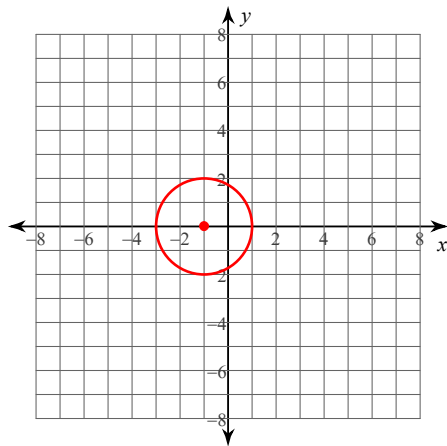
Center: (1, -1)
Radius: 3

$$909) (x + 1)^2 + (y - 2)^2 = 9$$



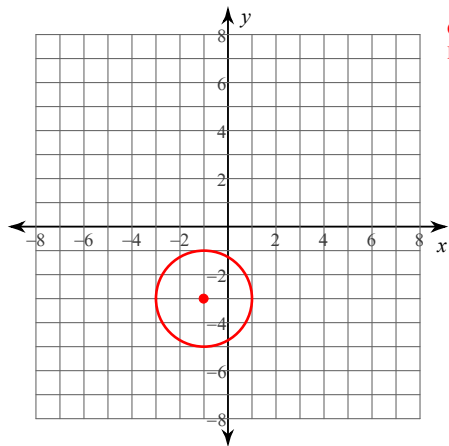
Center: $(-1, 2)$
Radius: 3

$$910) (x + 1)^2 + y^2 = 4$$



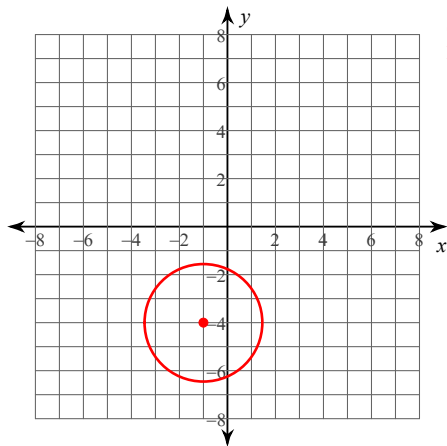
Center: $(-1, 0)$
Radius: 2

$$911) (x + 1)^2 + (y + 3)^2 = 4$$



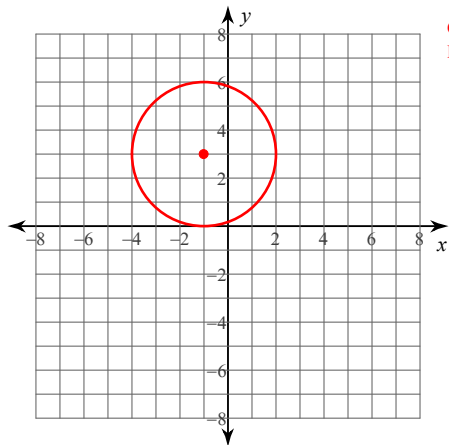
Center: $(-1, -3)$
Radius: 2

$$912) (x + 1)^2 + (y + 4)^2 = 6$$



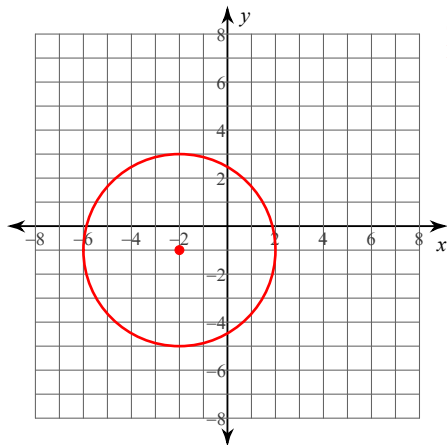
Center: $(-1, -4)$
Radius: $\sqrt{6}$

$$913) (x + 1)^2 + (y - 3)^2 = 9$$



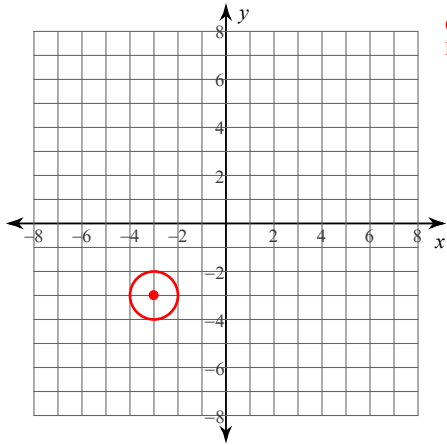
Center: $(-1, 3)$
Radius: 3

$$914) (x + 2)^2 + (y + 1)^2 = 16$$



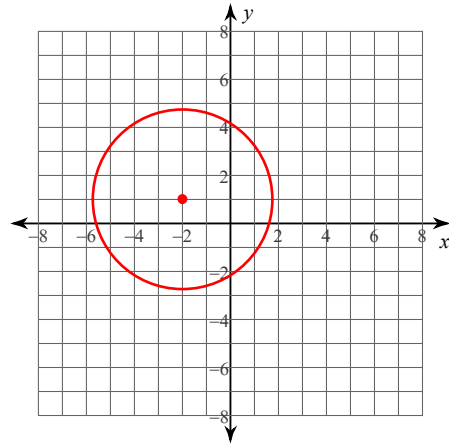
Center: $(-2, -1)$
Radius: 4

$$915) (x + 3)^2 + (y + 3)^2 = 1$$



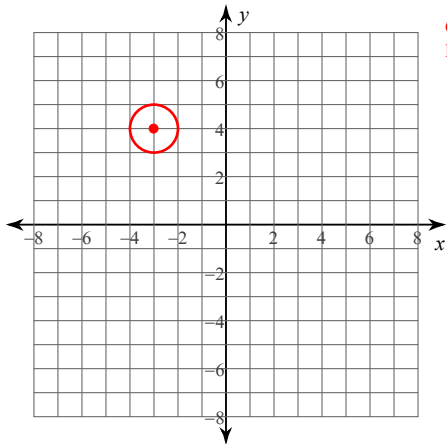
Center: $(-3, -3)$
Radius: 1

$$916) (x + 2)^2 + (y - 1)^2 = 14$$



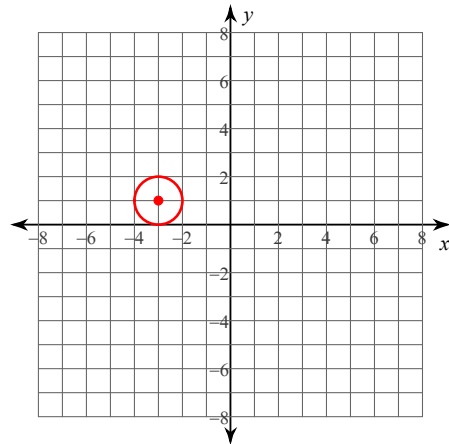
Center: $(-2, 1)$
Radius: $\sqrt{14}$

$$917) (x + 3)^2 + (y - 4)^2 = 1$$



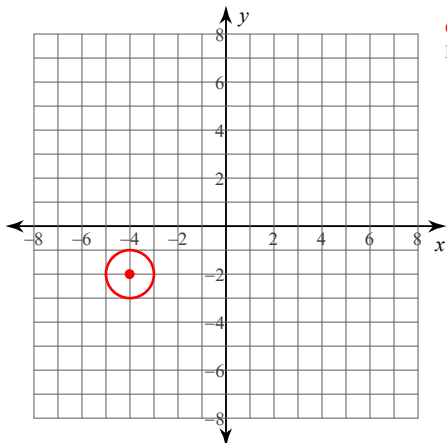
Center: $(-3, 4)$
Radius: 1

$$918) (x + 3)^2 + (y - 1)^2 = 1$$



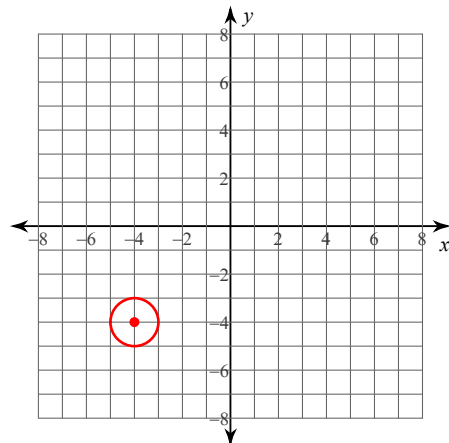
Center: $(-3, 1)$
Radius: 1

$$919) (x + 4)^2 + (y + 2)^2 = 1$$



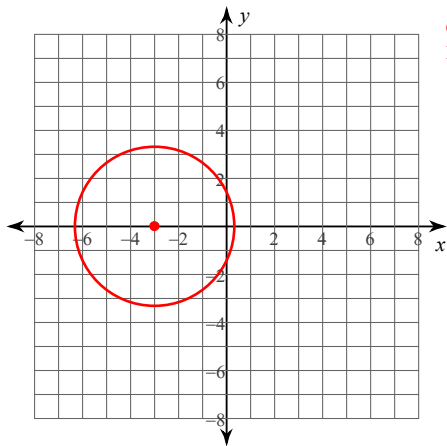
Center: $(-4, -2)$
Radius: 1

$$920) (x + 4)^2 + (y + 4)^2 = 1$$



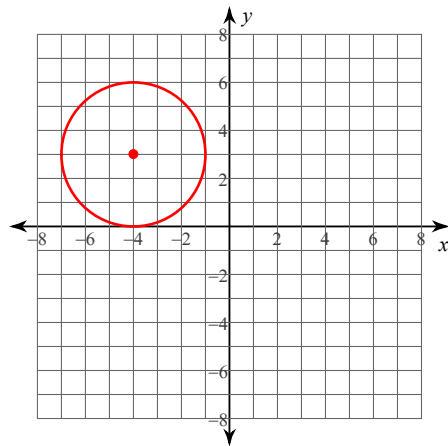
Center: $(-4, -4)$
Radius: 1

$$921) (x + 3)^2 + y^2 = 11$$



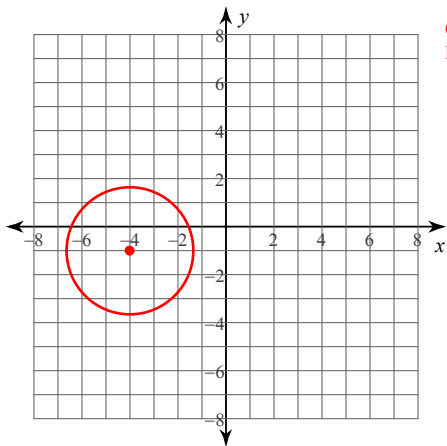
Center: $(-3, 0)$
Radius: $\sqrt{11}$

$$922) (x + 4)^2 + (y - 3)^2 = 9$$



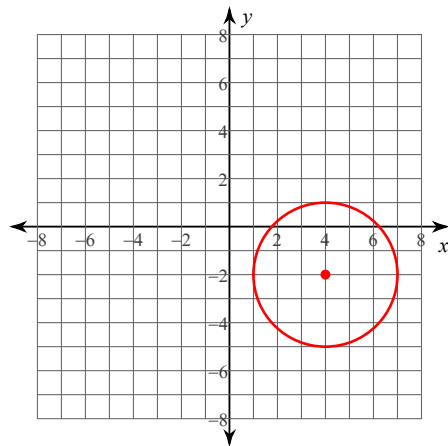
Center: $(-4, 3)$
Radius: 3

$$923) (x + 4)^2 + (y + 1)^2 = 7$$



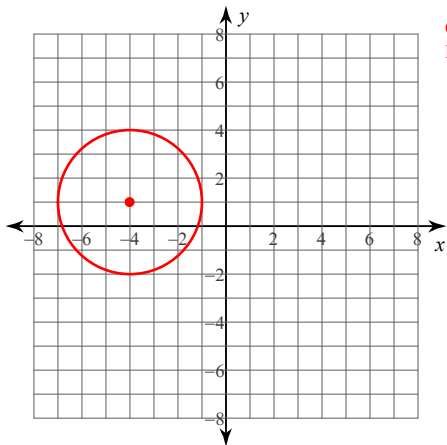
Center: $(-4, -1)$
Radius: $\sqrt{7}$

$$924) (x - 4)^2 + (y + 2)^2 = 9$$



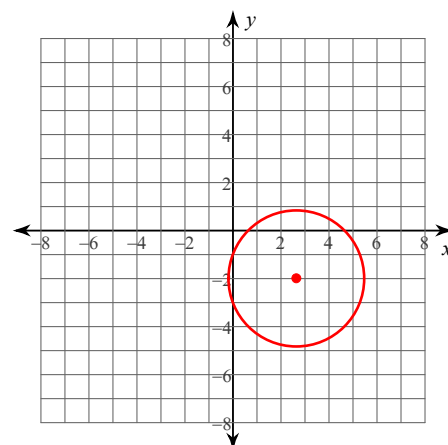
Center: $(4, -2)$
Radius: 3

$$925) (x + 4)^2 + (y - 1)^2 = 9$$



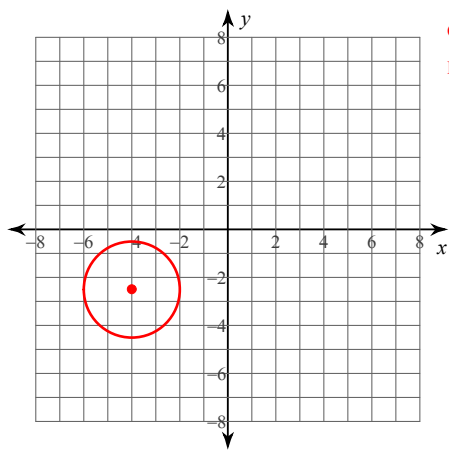
Center: $(-4, 1)$
Radius: 3

$$926) (x - \sqrt{7})^2 + (y + 2)^2 = 8$$



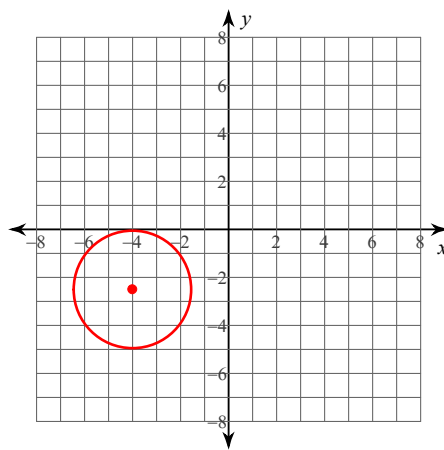
Center: $(\sqrt{7}, -2)$
Radius: $2\sqrt{2}$

$$927) (x + 4)^2 + \left(y + \frac{5}{2}\right)^2 = 4$$



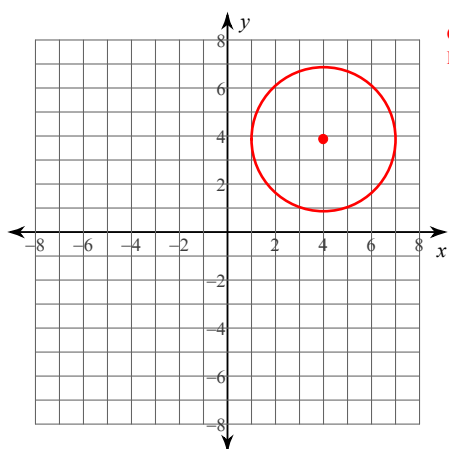
Center: $\left(-4, -\frac{5}{2}\right)$
Radius: 2

$$928) (x + 4)^2 + \left(y + \frac{5}{2}\right)^2 = 6$$



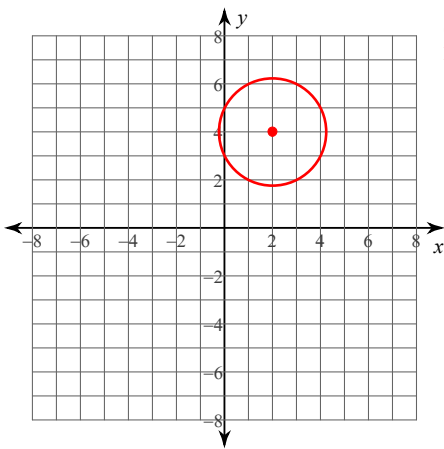
Center: $\left(-4, -\frac{5}{2}\right)$
Radius: $\sqrt{6}$

$$929) (x - 4)^2 + (y - \sqrt{15})^2 = 9$$



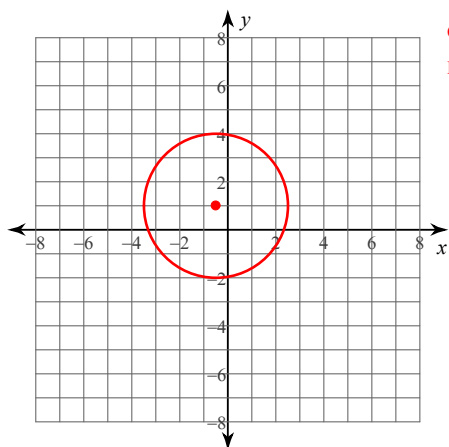
Center: $(4, \sqrt{15})$
Radius: 3

$$930) (x - 2)^2 + (y - 4)^2 = 5$$



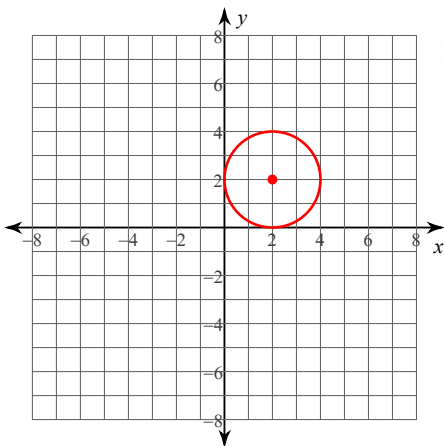
Center: $(2, 4)$
Radius: $\sqrt{5}$

$$931) \left(x + \frac{1}{2}\right)^2 + (y - 1)^2 = 9$$



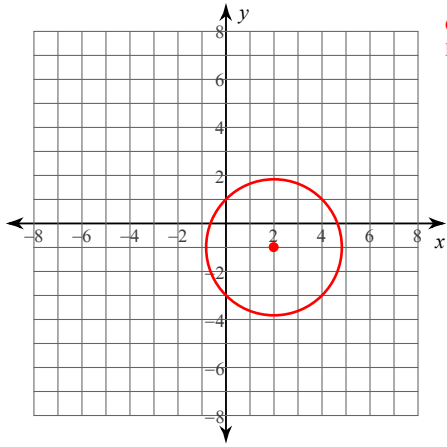
Center: $\left(-\frac{1}{2}, 1\right)$
Radius: 3

$$932) (x - 2)^2 + (y - 2)^2 = 4$$



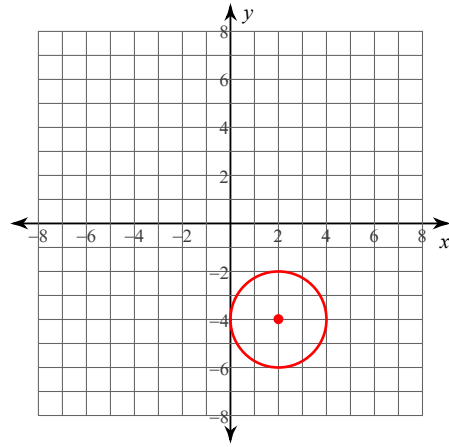
Center: $(2, 2)$
Radius: 2

$$933) (x - 2)^2 + (y + 1)^2 = 8$$



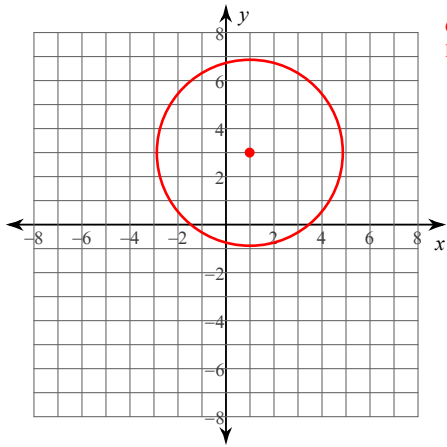
Center: $(2, -1)$
Radius: $2\sqrt{2}$

$$934) (x - 2)^2 + (y + 4)^2 = 4$$



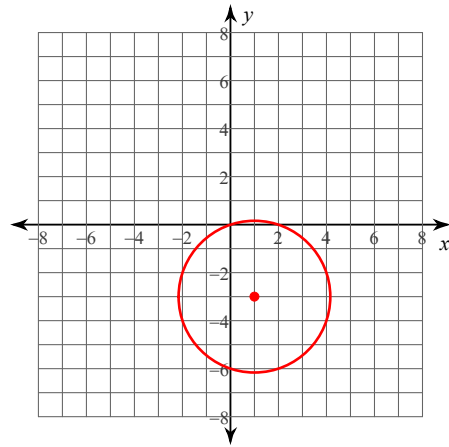
Center: $(2, -4)$
Radius: 2

$$935) (x - 1)^2 + (y - 3)^2 = 15$$



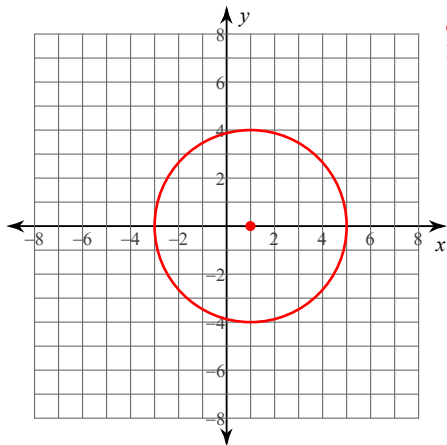
Center: $(1, 3)$
Radius: $\sqrt{15}$

$$936) (x - 1)^2 + (y + 3)^2 = 10$$



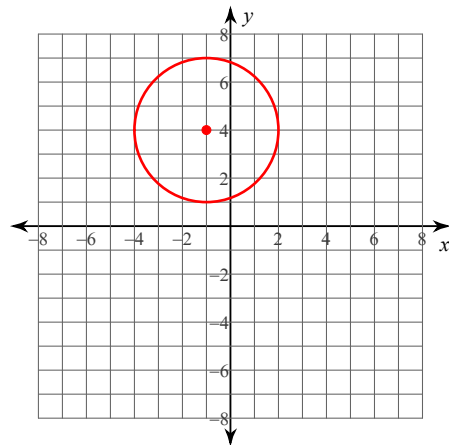
Center: $(1, -3)$
Radius: $\sqrt{10}$

$$937) (x - 1)^2 + y^2 = 16$$



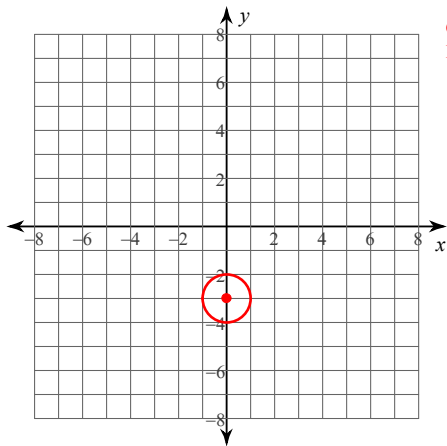
Center: $(1, 0)$
Radius: 4

$$938) (x + 1)^2 + (y - 4)^2 = 9$$



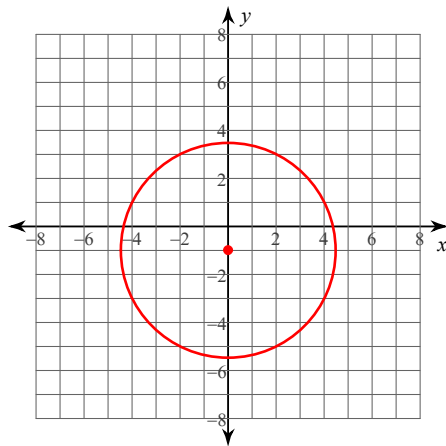
Center: $(-1, 4)$
Radius: 3

$$939) x^2 + (y + 3)^2 = 1$$



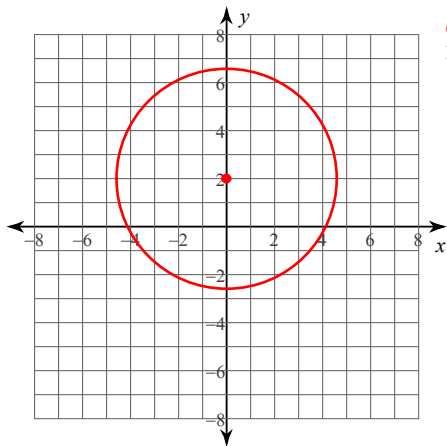
Center: $(0, -3)$
Radius: 1

$$940) x^2 + (y + 1)^2 = 20$$



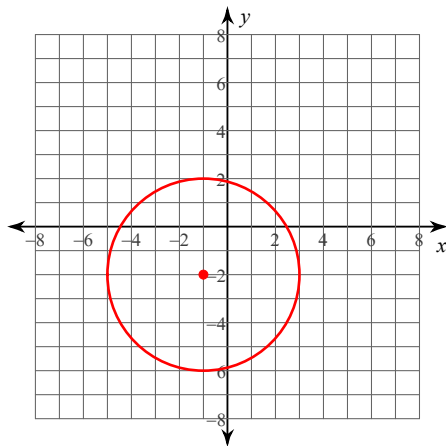
Center: $(0, -1)$
Radius: $2\sqrt{5}$

$$941) x^2 + (y - 2)^2 = 21$$



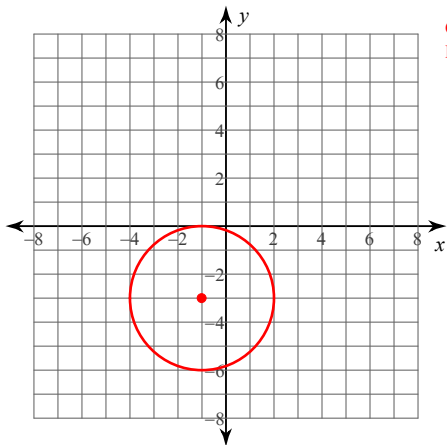
Center: $(0, 2)$
Radius: $\sqrt{21}$

$$942) (x + 1)^2 + (y + 2)^2 = 16$$



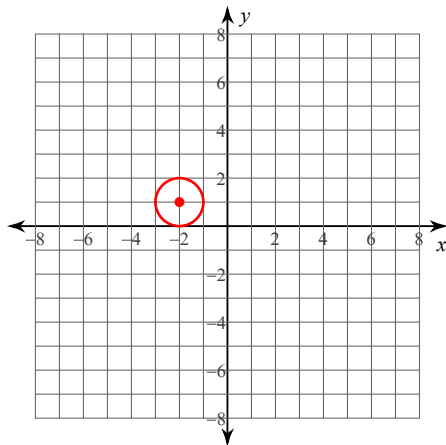
Center: $(-1, -2)$
Radius: 4

$$943) (x + 1)^2 + (y + 3)^2 = 9$$



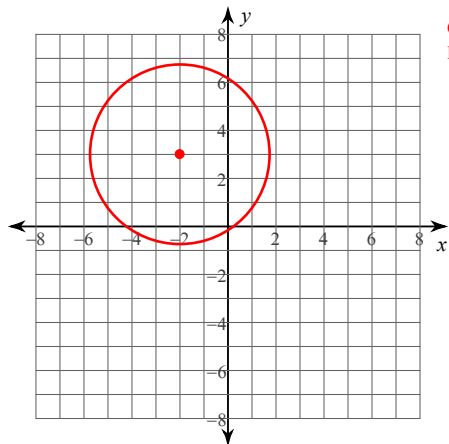
Center: $(-1, -3)$
Radius: 3

$$944) (x + 2)^2 + (y - 1)^2 = 1$$



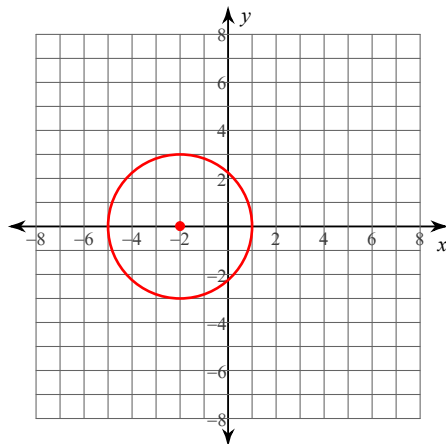
Center: $(-2, 1)$
Radius: 1

$$945) (x + 2)^2 + (y - 3)^2 = 14$$



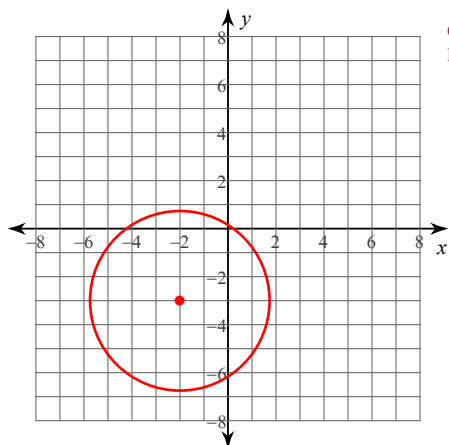
Center: $(-2, 3)$
Radius: $\sqrt{14}$

$$946) (x + 2)^2 + y^2 = 9$$



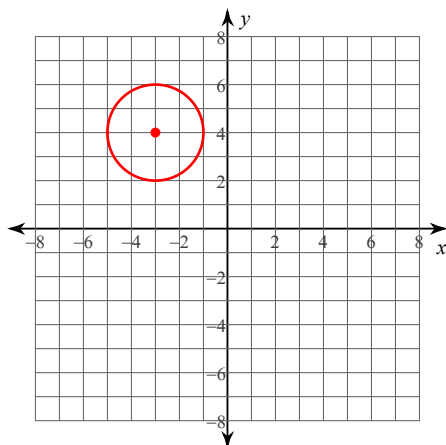
Center: $(-2, 0)$
Radius: 3

$$947) (x + 2)^2 + (y + 3)^2 = 14$$



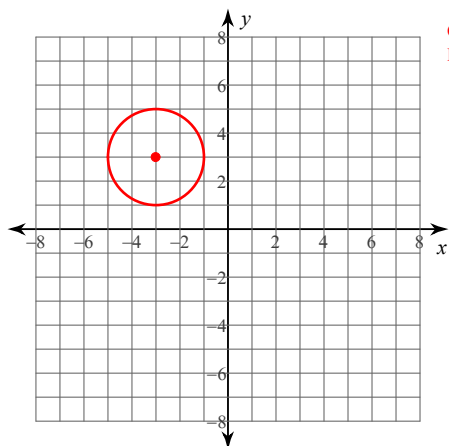
Center: $(-2, -3)$
Radius: $\sqrt{14}$

$$948) (x + 3)^2 + (y - 4)^2 = 4$$



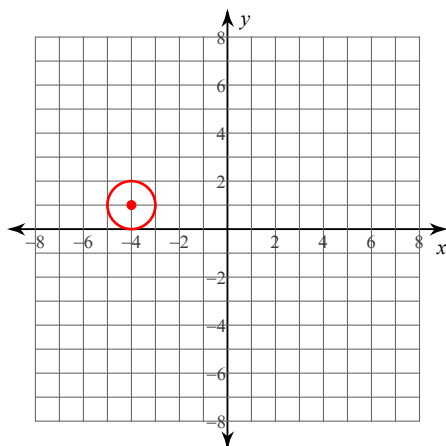
Center: $(-3, 4)$
Radius: 2

$$949) (x + 3)^2 + (y - 3)^2 = 4$$



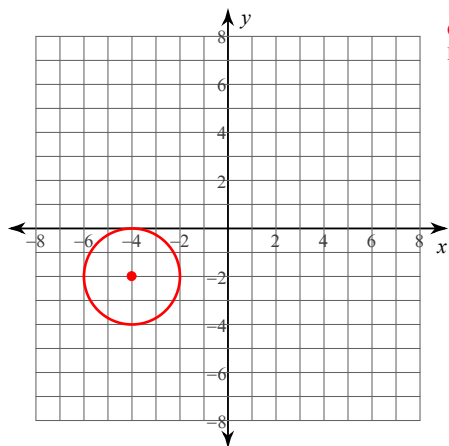
Center: $(-3, 3)$
Radius: 2

$$950) (x + 4)^2 + (y - 1)^2 = 1$$



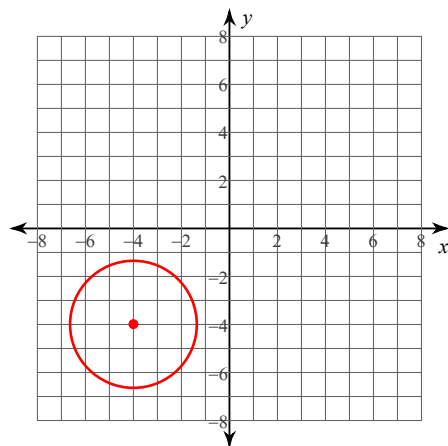
Center: $(-4, 1)$
Radius: 1

$$951) (x + 4)^2 + (y + 2)^2 = 4$$



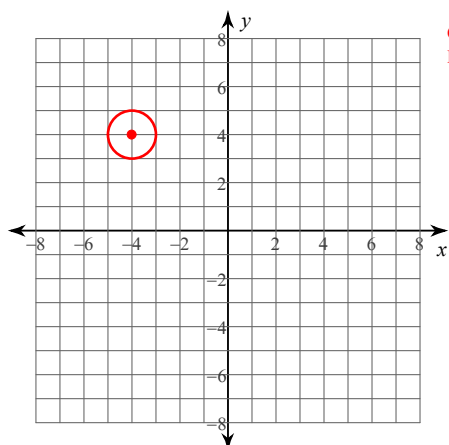
Center: $(-4, -2)$
Radius: 2

$$952) (x + 4)^2 + (y + 4)^2 = 7$$



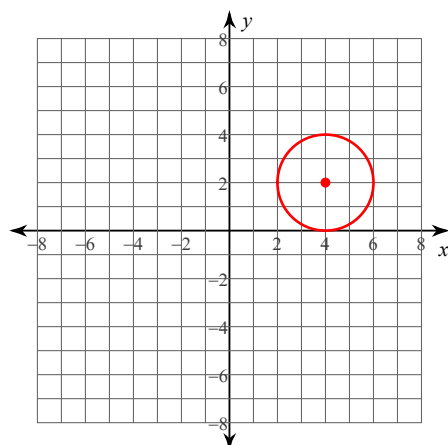
Center: $(-4, -4)$
Radius: $\sqrt{7}$

$$953) (x + 4)^2 + (y - 4)^2 = 1$$



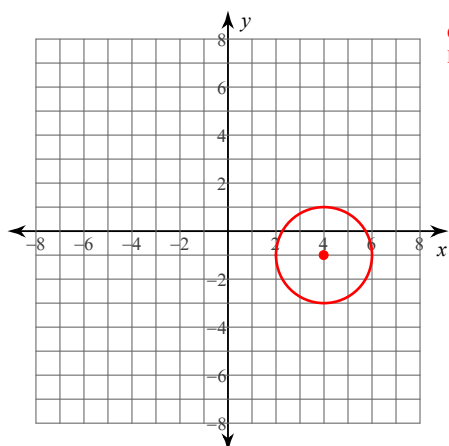
Center: $(-4, 4)$
Radius: 1

$$954) (x - 4)^2 + (y - 2)^2 = 4$$



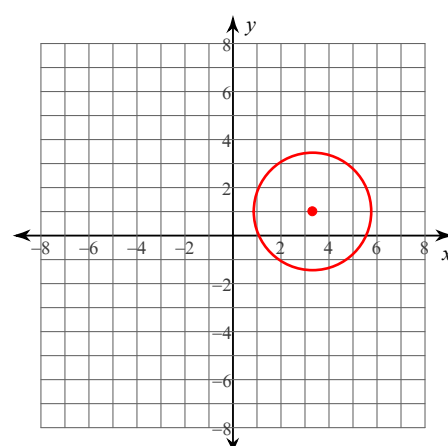
Center: $(4, 2)$
Radius: 2

$$955) (x - 4)^2 + (y + 1)^2 = 4$$



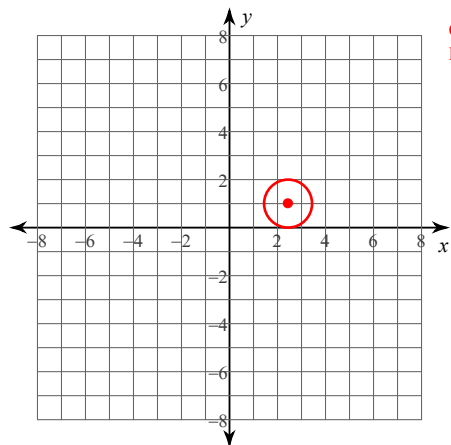
Center: $(4, -1)$
Radius: 2

$$956) (x - \sqrt{11})^2 + (y - 1)^2 = 6$$



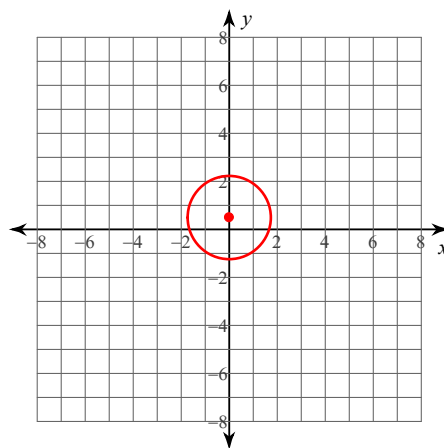
Center: $(\sqrt{11}, 1)$
Radius: $\sqrt{6}$

$$957) (x - \sqrt{6})^2 + (y - 1)^2 = 1$$



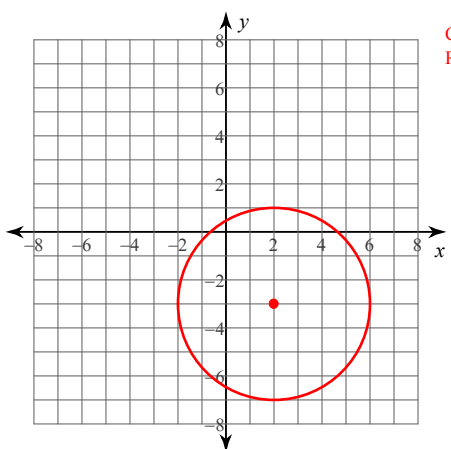
Center: $(\sqrt{6}, 1)$
Radius: 1

$$958) x^2 + \left(y - \frac{1}{2}\right)^2 = 3$$



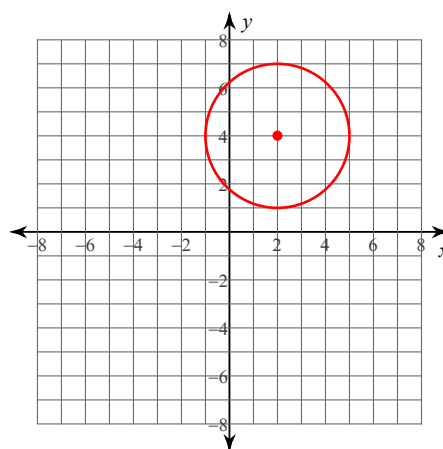
Center: $\left(0, \frac{1}{2}\right)$
Radius: $\sqrt{3}$

$$959) (x - 2)^2 + (y + 3)^2 = 16$$



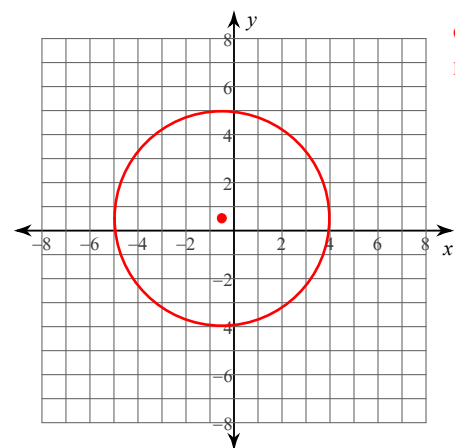
Center: $(2, -3)$
Radius: 4

$$960) (x - 2)^2 + (y - 4)^2 = 9$$



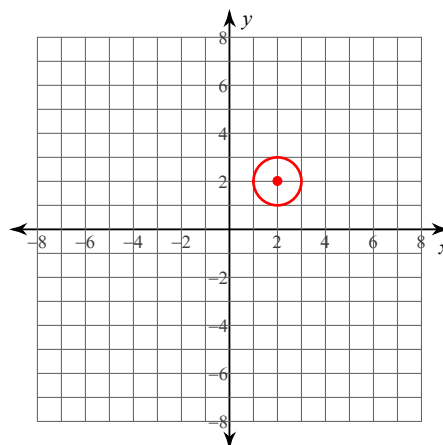
Center: $(2, 4)$
Radius: 3

$$961) \left(x + \frac{1}{2}\right)^2 + \left(y - \frac{1}{2}\right)^2 = 20$$



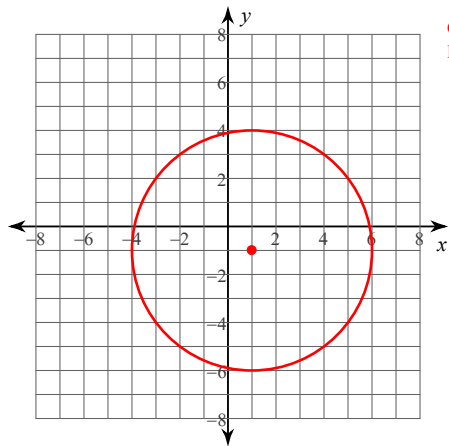
Center: $\left(-\frac{1}{2}, \frac{1}{2}\right)$
Radius: $2\sqrt{5}$

$$962) (x - 2)^2 + (y - 2)^2 = 1$$



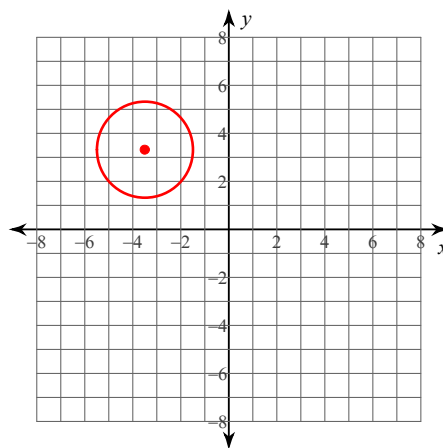
Center: $(2, 2)$
Radius: 1

$$963) (x - 1)^2 + (y + 1)^2 = 25$$



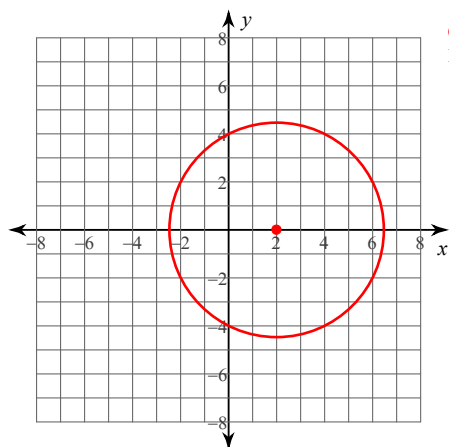
Center: (1, -1)
Radius: 5

$$964) \left(x + \frac{7}{2}\right)^2 + (y - \sqrt{11})^2 = 4$$



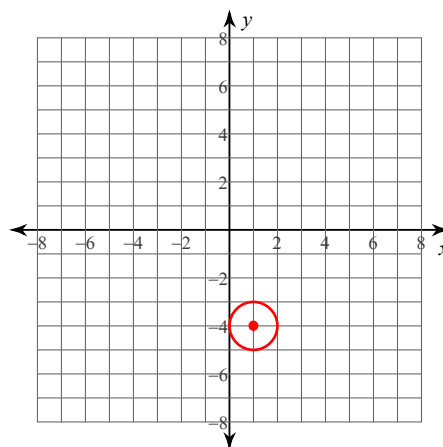
Center: $\left(-\frac{7}{2}, \sqrt{11}\right)$
Radius: 2

$$965) (x - 2)^2 + y^2 = 20$$



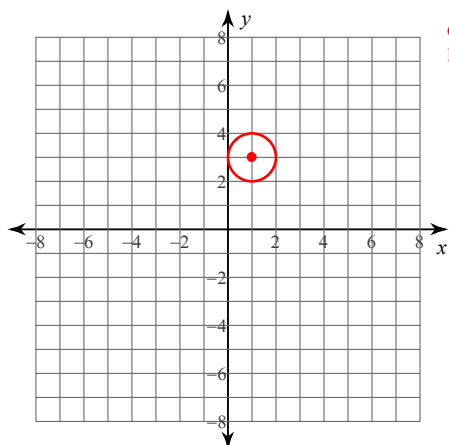
Center: (2, 0)
Radius: $2\sqrt{5}$

$$966) (x - 1)^2 + (y + 4)^2 = 1$$



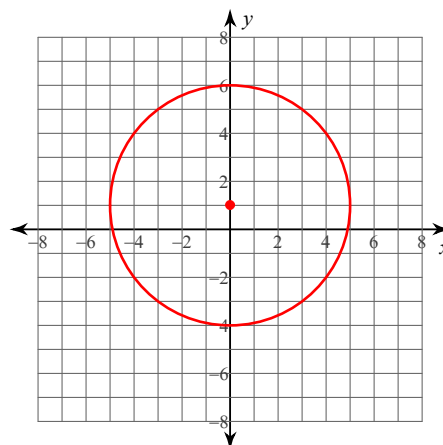
Center: (1, -4)
Radius: 1

$$967) (x - 1)^2 + (y - 3)^2 = 1$$



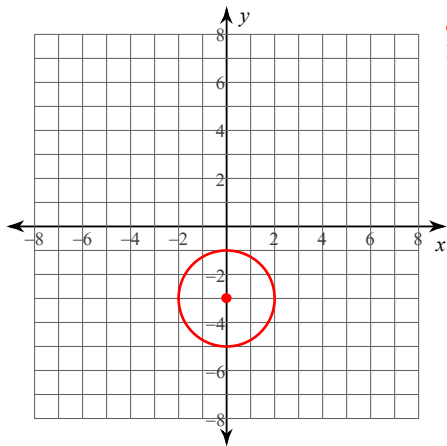
Center: (1, 3)
Radius: 1

$$968) x^2 + (y - 1)^2 = 25$$



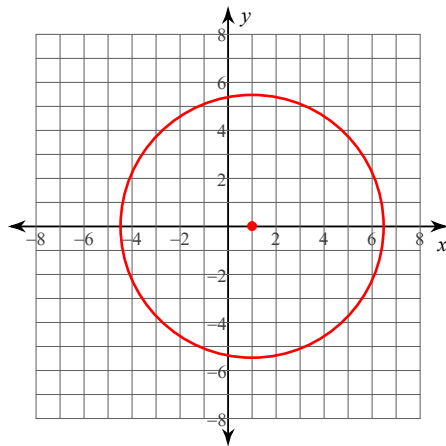
Center: (0, 1)
Radius: 5

$$969) x^2 + (y + 3)^2 = 4$$



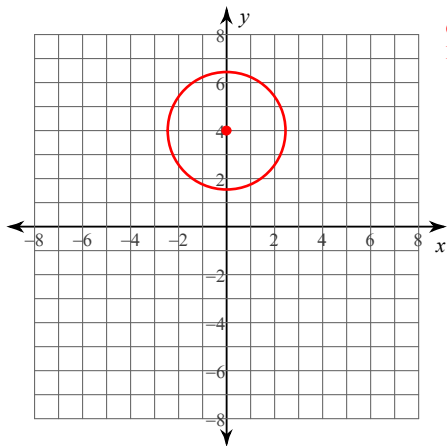
Center: $(0, -3)$
Radius: 2

$$970) (x - 1)^2 + y^2 = 30$$



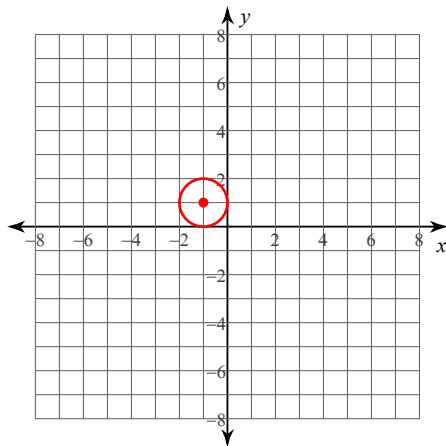
Center: $(1, 0)$
Radius: $\sqrt{30}$

$$971) x^2 + (y - 4)^2 = 6$$



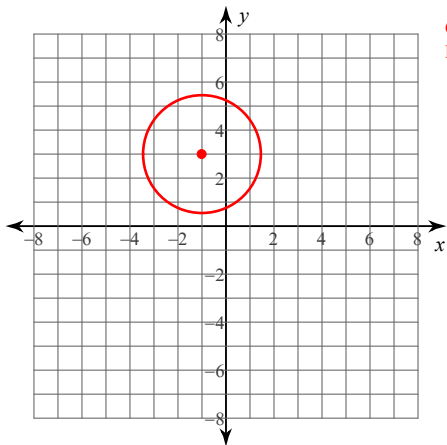
Center: $(0, 4)$
Radius: $\sqrt{6}$

$$972) (x + 1)^2 + (y - 1)^2 = 1$$



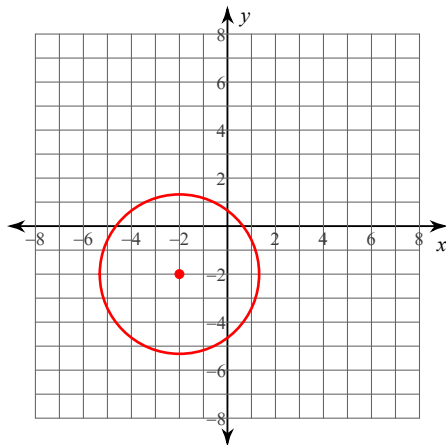
Center: $(-1, 1)$
Radius: 1

$$973) (x + 1)^2 + (y - 3)^2 = 6$$



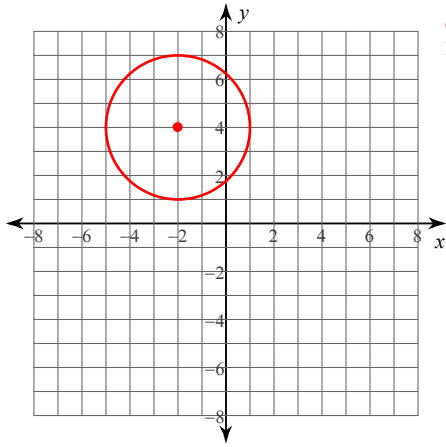
Center: $(-1, 3)$
Radius: $\sqrt{6}$

$$974) (x + 2)^2 + (y + 2)^2 = 11$$



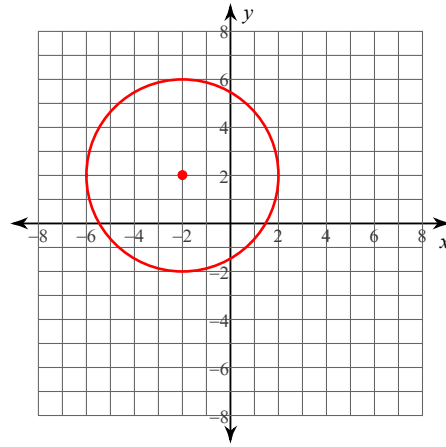
Center: $(-2, -2)$
Radius: $\sqrt{11}$

$$975) (x + 2)^2 + (y - 4)^2 = 9$$



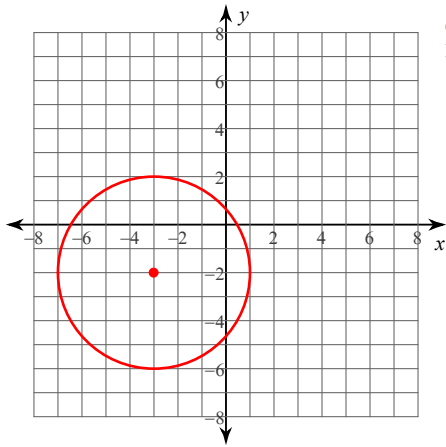
Center: $(-2, 4)$
Radius: 3

$$976) (x + 2)^2 + (y - 2)^2 = 16$$



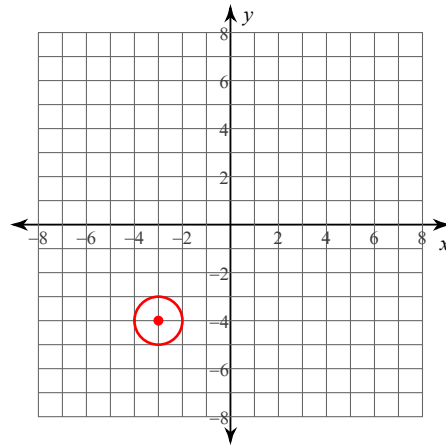
Center: $(-2, 2)$
Radius: 4

$$977) (x + 3)^2 + (y + 2)^2 = 16$$



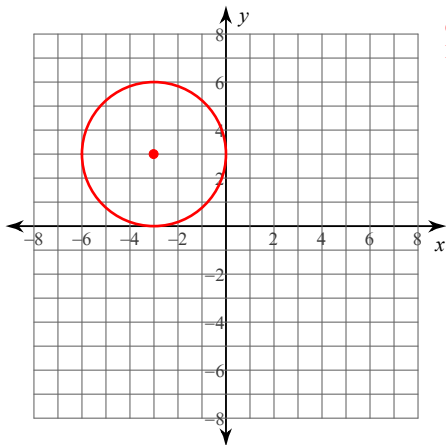
Center: $(-3, -2)$
Radius: 4

$$978) (x + 3)^2 + (y + 4)^2 = 1$$



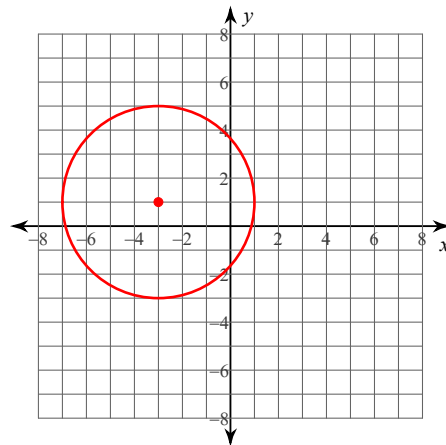
Center: $(-3, -4)$
Radius: 1

$$979) (x + 3)^2 + (y - 3)^2 = 9$$



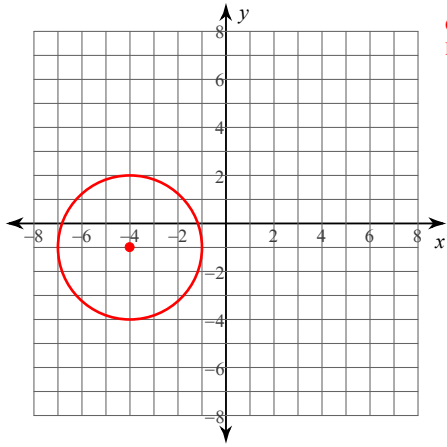
Center: $(-3, 3)$
Radius: 3

$$980) (x + 3)^2 + (y - 1)^2 = 16$$



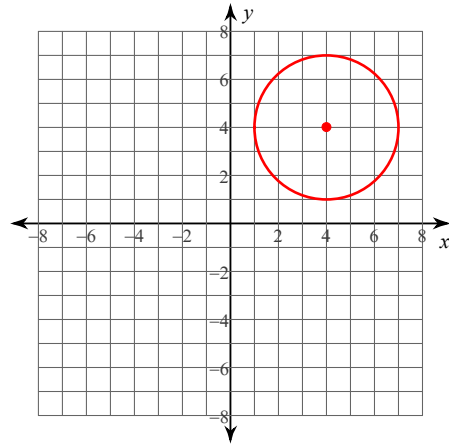
Center: $(-3, 1)$
Radius: 4

$$981) (x + 4)^2 + (y + 1)^2 = 9$$



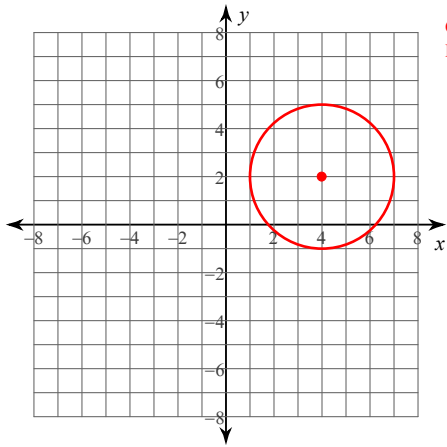
Center: $(-4, -1)$
Radius: 3

$$982) (x - 4)^2 + (y - 4)^2 = 9$$



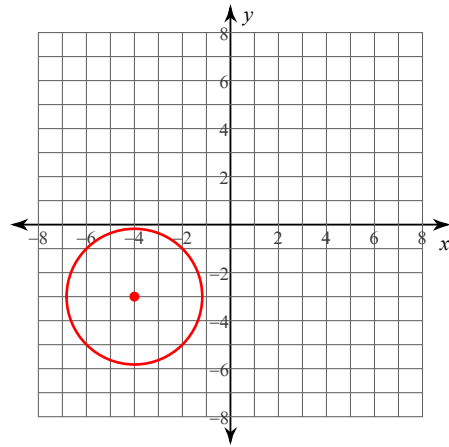
Center: $(4, 4)$
Radius: 3

$$983) (x - 4)^2 + (y - 2)^2 = 9$$



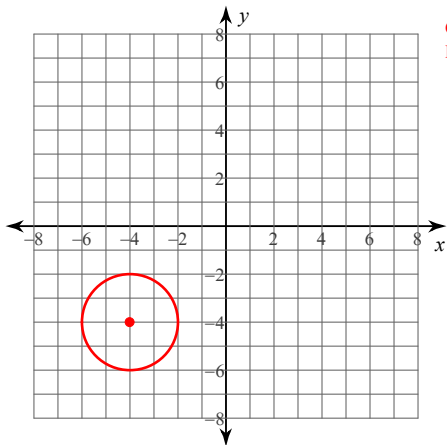
Center: $(4, 2)$
Radius: 3

$$984) (x + 4)^2 + (y + 3)^2 = 8$$



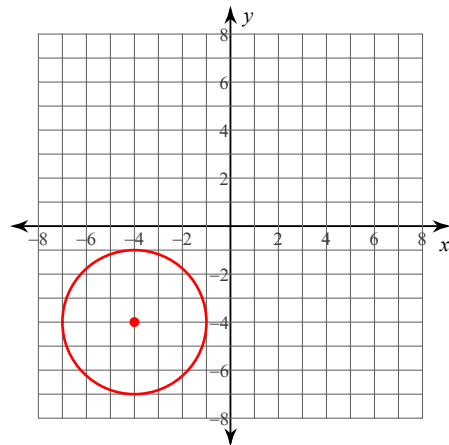
Center: $(-4, -3)$
Radius: $2\sqrt{2}$

$$985) (x + 4)^2 + (y + 4)^2 = 4$$



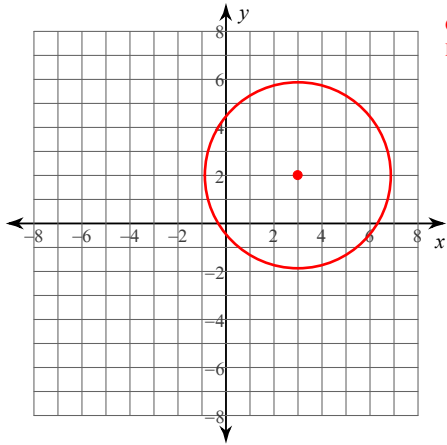
Center: $(-4, -4)$
Radius: 2

$$986) (x + 4)^2 + (y + 4)^2 = 9$$



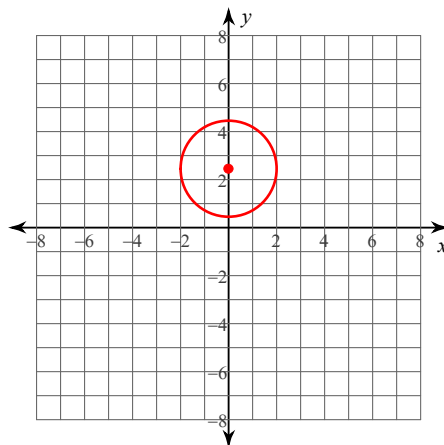
Center: $(-4, -4)$
Radius: 3

$$987) (x - 3)^2 + (y - 2)^2 = 15$$



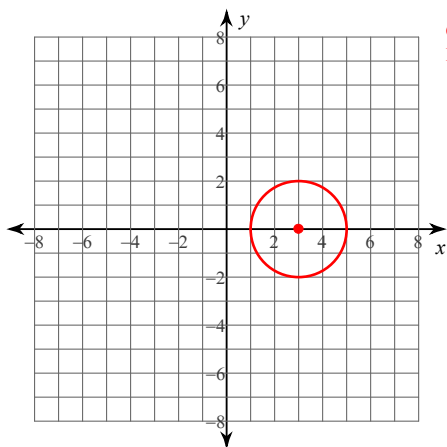
Center: $(3, 2)$
Radius: $\sqrt{15}$

$$988) x^2 + (y - \sqrt{6})^2 = 4$$



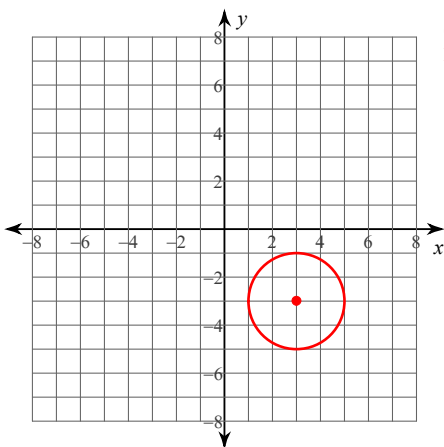
Center: $(0, \sqrt{6})$
Radius: 2

$$989) (x - 3)^2 + y^2 = 4$$



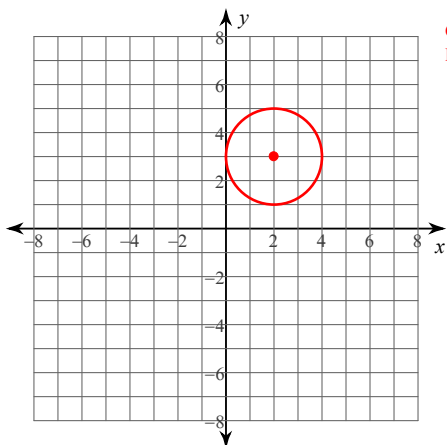
Center: $(3, 0)$
Radius: 2

$$990) (x - 3)^2 + (y + 3)^2 = 4$$



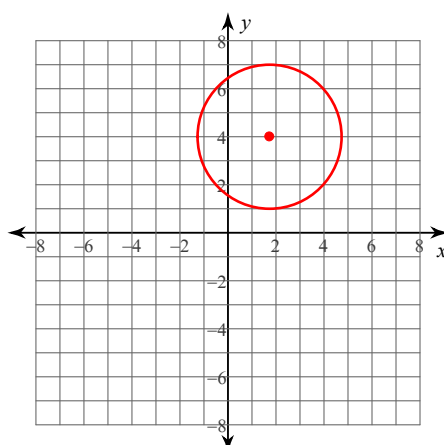
Center: $(3, -3)$
Radius: 2

$$991) (x - 2)^2 + (y - 3)^2 = 4$$



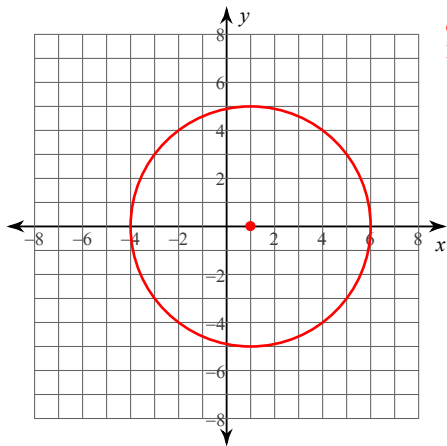
Center: $(2, 3)$
Radius: 2

$$992) (x - \sqrt{3})^2 + (y - 4)^2 = 9$$



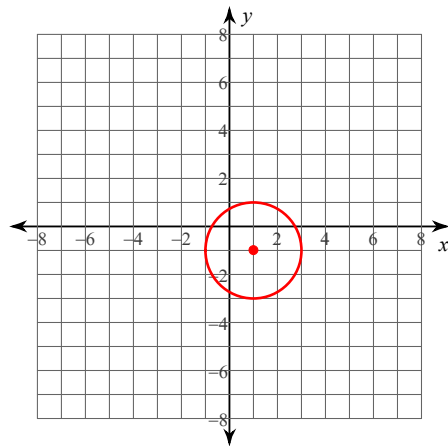
Center: $(\sqrt{3}, 4)$
Radius: 3

$$993) (x - 1)^2 + y^2 = 25$$



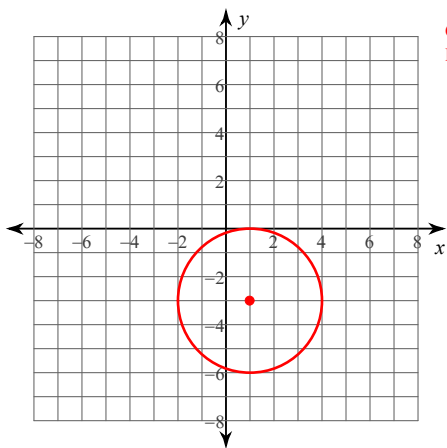
Center: (1, 0)
Radius: 5

$$994) (x - 1)^2 + (y + 1)^2 = 4$$



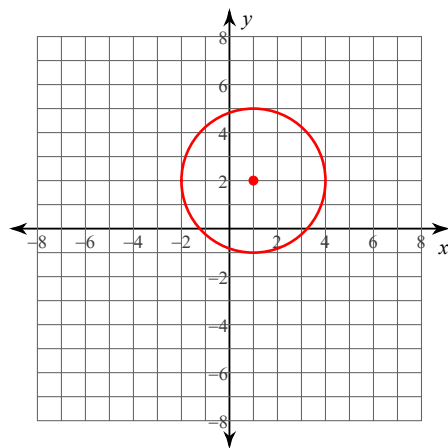
Center: (1, -1)
Radius: 2

$$995) (x - 1)^2 + (y + 3)^2 = 9$$



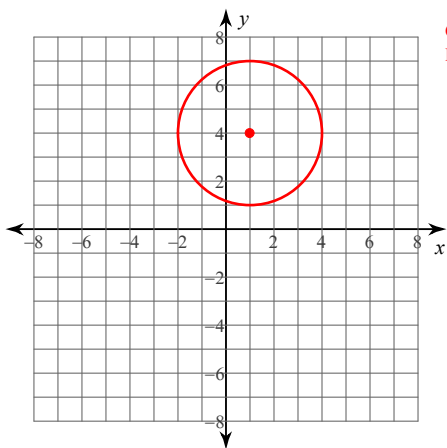
Center: (1, -3)
Radius: 3

$$996) (x - 1)^2 + (y - 2)^2 = 9$$



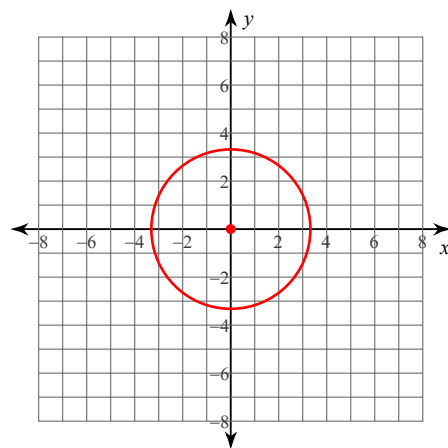
Center: (1, 2)
Radius: 3

$$997) (x - 1)^2 + (y - 4)^2 = 9$$



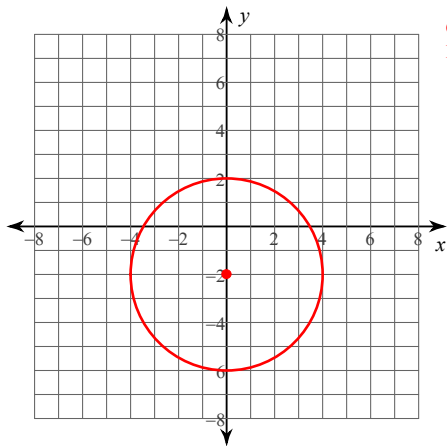
Center: (1, 4)
Radius: 3

$$998) x^2 + y^2 = 11$$



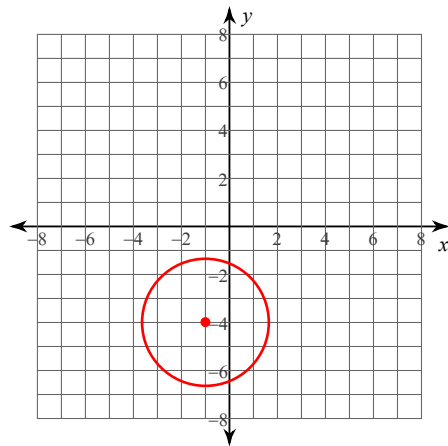
Center: (0, 0)
Radius: $\sqrt{11}$

999) $x^2 + (y + 2)^2 = 16$



Center: $(0, -2)$
Radius: 4

1000) $(x + 1)^2 + (y + 4)^2 = 7$



Center: $(-1, -4)$
Radius: $\sqrt{7}$