

## Quadratic equations - Solve by taking square roots

**Solve one-step equations by taking square roots:**

1)  $p^2 = 196$

2)  $x^2 = 81$

3)  $m^2 = 64$

4)  $n^2 = 16$

5)  $x^2 = 120$

6)  $r^2 = 50$

7)  $n^2 = 4$

8)  $b^2 = 144$

9)  $x^2 = 19$

10)  $v^2 = 182$

11)  $a^2 = -167$

12)  $x^2 = 98$

$$13) p^2 = -187$$

$$14) k^2 = 121$$

$$15) x^2 = 100$$

$$16) n^2 = 67$$

$$17) m^2 = 138$$

$$18) x^2 = -24$$

$$19) n^2 = 162$$

$$20) b^2 = 37$$

$$21) k^2 = -77$$

$$22) x^2 = 85$$

$$23) x^2 = 155$$

$$24) n^2 = 169$$

$$25) p^2 = 179$$

$$26) n^2 = 9$$

$$27) m^2 = 36$$

$$28) x^2 = 54$$

$$29) r^2 = 1$$

$$30) n^2 = 32$$

$$31) v^2 = 173$$

$$32) a^2 = 2$$

$$33) b^2 = 102$$

$$34) p^2 = 25$$

$$35) k^2 = 72$$

$$36) n^2 = -49$$

$$37) r^2 = 41$$

$$38) n^2 = 190$$

$$39) x^2 = -138$$

$$40) v^2 = 49$$

$$41) n^2 = 89$$

$$42) x^2 = -171$$

$$43) k^2 = -191$$

$$44) n^2 = 59$$

$$45) p^2 = 12$$

$$46) m^2 = 93$$

$$47) r^2 = 107$$

$$48) v^2 = 6$$

$$49) a^2 = 30$$

$$50) x^2 = 76$$

$$51) n^2 = 124$$

$$52) n^2 = 23$$

$$53) b^2 = 94$$

$$54) x^2 = 47$$

$$55) v^2 = 164$$

$$56) k^2 = 71$$

$$57) a^2 = -196$$

$$58) x^2 = -20$$

$$59) x^2 = 0$$

$$60) x^2 = -53$$

$$61) n^2 = 119$$

$$62) b^2 = 159$$

$$63) a^2 = 58$$

$$64) k^2 = 129$$

$$65) p^2 = 147$$

$$66) x^2 = 177$$

$$67) n^2 = 146$$

$$68) n^2 = -113$$

$$69) m^2 = 194$$

$$70) n^2 = 15$$

$$71) x^2 = 133$$

$$72) x^2 = 8$$

$$73) x^2 = 111$$

$$74) n^2 = 181$$

$$75) b^2 = 151$$

$$76) v^2 = 26$$

$$77) x^2 = 3$$

$$78) x^2 = 168$$

$$79) x^2 = -48$$

$$80) b^2 = -28$$

$$81) a^2 = 115$$

$$82) k^2 = 185$$

$$83) p^2 = 61$$

$$84) x^2 = -117$$

$$85) x^2 = 38$$

$$86) a^2 = 78$$

$$87) m^2 = 56$$

$$88) b^2 = 150$$

$$89) x^2 = 96$$

$$90) x^2 = 65$$

$$91) a^2 = -142$$

$$92) p^2 = -162$$

$$93) n^2 = 43$$

$$94) m^2 = 113$$

$$95) x^2 = 160$$

$$96) x^2 = -195$$



$$97) n^2 = 137$$

$$98) v^2 = 83$$

$$99) x^2 = 60$$

$$100) n^2 = 183$$

**Solve two-step quadric equations by taking square roots:**

$$101) -3m^2 = -156$$

$$102) n^2 + 4 = 38$$

$$103) r^2 + 3 = 12$$

$$104) 9x^2 = 324$$

$$105) b^2 + 9 = 25$$

$$106) n^2 + 3 = 67$$

$$107) x^2 + 8 = 75$$

$$108) 2v^2 = 96$$

$$109) a^2 + 7 = 13$$

$$110) 9n^2 = 1$$

$$111) 5v^2 = 320$$

$$112) x^2 + 5 = 69$$

$$113) 7x^2 = 28$$

$$114) k^2 - 9 = 33$$

$$115) 5p^2 = 95$$

$$116) x^2 - 9 = 30$$

$$117) 36n^2 = 25$$

$$118) n^2 + 5 = 5$$

$$119) r^2 + 4 = 29$$

$$120) 100m^2 = 81$$

$$121) 3n^2 = 102$$

$$122) x^2 + 10 = 14$$

$$123) 10b^2 = 530$$

$$124) 3v^2 = 216$$

$$125) x^2 + 9 = 99$$

$$126) 4x^2 = 64$$

$$127) k^2 - 6 = -2$$

$$128) 64a^2 = 25$$

$$129) 8p^2 = 800$$

$$130) x^2 - 7 = 79$$

$$131) 7n^2 = 42$$

$$132) m^2 - 8 = 16$$

$$133) -8x^2 = -128$$

$$134) r^2 + 6 = 50$$

$$135) n^2 + 6 = 10$$

$$136) -9b^2 = -729$$

$$137) -10x^2 = -390$$

$$138) v^2 + 5 = 25$$

$$139) -4n^2 = -232$$

$$140) a^2 - 10 = 67$$

$$141) -4k^2 = -36$$

$$142) x^2 + 10 = 19$$

$$143) n^2 + 9 = 58$$

$$144) 25x^2 = 49$$

$$145) k^2 - 6 = 67$$

$$146) x^2 - 6 = 5$$

$$147) 9p^2 = 819$$

$$148) m^2 - 7 = 2$$

$$149) 8n^2 = 248$$

$$150) 64x^2 = 4$$

$$151) -r^2 = -36$$

$$152) -8b^2 = -560$$

$$153) n^2 - 1 = 6$$

$$154) x^2 - 9 = -6$$

$$155) -2v^2 = -88$$

$$156) x^2 - 3 = 6$$

$$157) a^2 - 10 = -10$$

$$158) p^2 - 10 = 15$$

$$159) 9k^2 = 4$$

$$160) x^2 - 4 = 54$$

$$161) 2n^2 = 156$$

$$162) m^2 - 5 = 92$$

$$163) 2r^2 = 70$$

$$164) x^2 - 5 = -4$$

$$165) 2n^2 = 200$$

$$166) b^2 - 6 = 19$$

$$167) v^2 + 10 = 43$$

$$168) n^2 + 9 = 109$$

$$169) -7x^2 = -84$$

$$170) k^2 - 1 = 0$$

$$171) 5x^2 = 500$$

$$172) -7a^2 = -630$$

$$173) -2x^2 = -72$$

$$174) n^2 + 4 = 8$$

$$175) -2m^2 = -90$$

$$176) p^2 + 4 = 103$$

$$177) -3x^2 = -249$$

$$178) n^2 + 3 = 6$$

$$179) m^2 - 4 = 60$$

$$180) x^2 - 4 = 0$$

$$181) 2r^2 = 72$$

$$182) b^2 + 8 = 106$$

$$183) 7x^2 = 679$$

$$184) 49v^2 = 64$$

$$185) x^2 - 7 = 57$$

$$186) 49a^2 = 25$$

$$187) 6p^2 = 384$$

$$188) k^2 - 7 = 90$$

$$189) x^2 - 1 = 31$$

$$190) -2m^2 = -138$$

$$191) n^2 + 5 = 55$$

$$192) x^2 - 10 = 26$$



$$193) 4n^2 = 4$$

$$194) r^2 + 5 = 93$$

$$195) b^2 + 10 = 10$$

$$196) 3v^2 = 48$$

$$197) 3n^2 = 87$$

$$198) x^2 + 10 = 93$$

$$199) k^2 + 2 = 43$$

$$200) 9a^2 = 198$$

$$201) -15x^2 = -4335$$

$$202) x^2 + 14 = 295$$

$$203) -6n^2 = -1308$$

$$204) m^2 + 14 = 50$$

$$205) p^2 + 2 = 94$$

$$206) -19x^2 = -532$$

$$207) n^2 + 10 = 374$$

$$208) -11m^2 = -2816$$

$$209) r^2 + 19 = 44$$

$$210) -2x^2 = -248$$

$$211) -14n^2 = -2366$$

$$212) b^2 + 6 = 295$$

$$213) -6v^2 = -1944$$

$$214) x^2 + 14 = 284$$

$$215) -6x^2 = -1242$$

$$216) a^2 - 18 = 238$$

$$217) -10p^2 = -170$$

$$218) k^2 + 2 = 82$$

$$219) x^2 + 10 = -8$$

$$220) -2n^2 = -480$$

$$221) m^2 + 19 = 55$$

$$222) 7r^2 = 791$$

$$223) n^2 + 15 = 40$$

$$224) -6b^2 = -2166$$

$$225) -14x^2 = -700$$

$$226) 196v^2 = 16$$

$$227) -18n^2 = -1458$$

$$228) x^2 + 3 = -23$$

$$229) -10k^2 = -3550$$

$$230) 121a^2 = 1$$

$$231) x^2 + 19 = 311$$

$$232) -13n^2 = -1573$$

$$233) -x^2 = -228$$

$$234) m^2 + 7 = -23$$

$$235) x^2 + 15 = 64$$

$$236) -6n^2 = -1014$$

$$237) -5p^2 = -1935$$

$$238) b^2 - 17 = 181$$

$$239) -9x^2 = -900$$

$$240) r^2 + 3 = 137$$

$$241) n^2 + 11 = 47$$

$$242) -b^2 = 28$$

$$243) v^2 + 19 = 299$$

$$244) 8x^2 = 3200$$

$$245) a^2 + 16 = 57$$

$$246) 169x^2 = 144$$

$$247) p^2 + 15 = 328$$

$$248) 3x^2 = -780$$

$$249) n^2 - 17 = -32$$

$$250) -5k^2 = -1880$$

$$251) m^2 + 12 = 135$$

$$252) -9r^2 = -1296$$

$$253) x^2 + 20 = 84$$

$$254) -n^2 = -256$$

$$255) b^2 - 13 = 206$$

$$256) 8v^2 = 8$$

$$257) -4x^2 = 76$$

$$258) -5a^2 = -1825$$

$$259) n^2 + 16 = 52$$

$$260) x^2 + 3 = 327$$

$$261) x^2 - 8 = 117$$

$$262) -17k^2 = -4284$$

$$263) n^2 + 12 = 74$$

$$264) -5m^2 = -1925$$

$$265) p^2 + 20 = 12$$

$$266) x^2 + 8 = 297$$

$$267) -12n^2 = -2496$$

$$268) b^2 + 17 = 306$$

$$269) -4r^2 = -196$$

$$270) x^2 + 16 = 80$$

$$271) -17b^2 = 969$$

$$272) 4n^2 = 1216$$

$$273) v^2 + 13 = -4$$

$$274) -8x^2 = -648$$

$$275) x^2 - 20 = 31$$

$$276) -7a^2 = -847$$

$$277) k^2 - 12 = 349$$

$$278) p^2 + 8 = 218$$

$$279) -3x^2 = 45$$

$$280) n^2 + 17 = 10$$

$$281) 16m^2 = 81$$

$$282) 4x^2 = 1172$$

$$283) r^2 - 16 = 308$$

$$284) -8n^2 = -288$$

$$285) b^2 + 13 = 94$$

$$286) 49v^2 = 361$$

$$287) x^2 - 20 = -23$$

$$288) 9n^2 = -1755$$



$$289) a^2 - 12 = 52$$

$$290) 17k^2 = 3383$$

$$291) x^2 + 17 = 89$$

$$292) -3x^2 = -405$$

$$293) 5n^2 = 1610$$

$$294) m^2 - 16 = 384$$

$$295) x^2 - 8 = -36$$

$$296) 13p^2 = -3458$$

$$297) n^2 - 19 = 342$$

$$298) 14b^2 = 4522$$

$$299) r^2 - 11 = 313$$

$$300) x^2 + 9 = 323$$

**Solve three-step quadric equations by taking square roots:**

301)  $169n^2 + 6 = 175$

302)  $7a^2 - 1 = 699$

303)  $3x^2 - 10 = 59$

304)  $14v^2 - 6 = 2668$

305)  $12a^2 + 7 = 2359$

306)  $10x^2 + 14 = 514$

307)  $6k^2 + 3 = 621$

308)  $9p^2 - 2 = 1168$

309)  $-9 - 13x^2 = -2037$

310)  $12m^2 + 11 = 95$

311)  $5n^2 - 13 = 487$

312)  $14r^2 + 6 = 482$

$$313) 8x^2 + 4 = 356$$

$$314) 5b^2 - 10 = 70$$

$$315) -14 - 4v^2 = -578$$

$$316) 121n^2 - 5 = 20$$

$$317) 14x^2 + 8 = 2374$$

$$318) 10a^2 - 1 = 179$$

$$319) 36n^2 + 3 = 199$$

$$320) 5k^2 - 6 = 219$$

$$321) -13 - 9x^2 = -652$$

$$322) 14x^2 + 11 = 2377$$

$$323) 10m^2 + 2 = 1512$$

$$324) 7 - 13n^2 = -1618$$

$$325) 4p^2 - 5 = 571$$

$$326) 7x^2 - 9 = 54$$

$$327) 8 - 13b^2 = -707$$

$$328) 64n^2 - 14 = 86$$

$$329) 10r^2 + 4 = 44$$

$$330) 144x^2 - 1 = 48$$

$$331) 6n^2 - 6 = 720$$

$$332) 9a^2 - 12 = 1446$$

$$333) 3v^2 + 12 = 579$$

$$334) 169x^2 + 7 = 88$$

$$335) 12x^2 + 3 = 567$$

$$336) 9k^2 - 9 = 828$$

$$337) 6a^2 - 4 = 392$$

$$338) 3p^2 - 14 = 94$$

$$339) 5x^2 + 11 = 616$$

$$340) 12n^2 + 4 = 2080$$

$$341) 8r^2 - 5 = 27$$

$$342) 14m^2 - 1 = 503$$

$$343) 11x^2 - 12 = 527$$

$$344) 5n^2 + 12 = 397$$

$$345) 14v^2 + 3 = 507$$

$$346) 100x^2 - 4 = -3$$

$$347) 7b^2 + 8 = 736$$

$$348) -8 - 6n^2 = -1112$$

$$349) 5a^2 - 13 = 677$$

$$350) 11 + 196k^2 = 132$$

$$351) 14x^2 + 5 = 971$$

$$352) 10n^2 - 5 = 1145$$

$$353) 3x^2 + 8 = 356$$

$$354) 12m^2 - 10 = 422$$

$$355) 9x^2 + 8 = 1763$$

$$356) 13 - 9p^2 = -887$$

$$357) 3 + 25n^2 = 103$$

$$358) 12r^2 - 8 = 2344$$

$$359) 6x^2 - 13 = 629$$

$$360) 10b^2 - 3 = 807$$

$$361) 9n^2 + 12 = 1137$$

$$362) 5 - 13a^2 = -2192$$

$$363) 5v^2 - 2 = 83$$

$$364) 14x^2 - 9 = 509$$

$$365) 12x^2 - 4 = 128$$

$$366) 144k^2 + 9 = 34$$

$$367) 8n^2 + 13 = 1525$$

$$368) 5p^2 + 4 = 594$$

$$369) -1 - 4x^2 = -545$$

$$370) 8m^2 - 12 = 60$$

$$371) 14n^2 - 7 = 2359$$

$$372) 11r^2 + 12 = 716$$

$$373) 5x^2 + 5 = 245$$

$$374) 7n^2 + 1 = 568$$

$$375) 14b^2 - 4 = 2362$$

$$376) 10x^2 + 14 = 1484$$

$$377) 3v^2 - 9 = 375$$

$$378) 13n^2 + 9 = 2271$$

$$379) 25a^2 + 4 = 148$$

$$380) 14k^2 - 6 = 1688$$

$$381) -12 - 6x^2 = -528$$

$$382) 3p^2 - 7 = 170$$

$$383) 196n^2 + 13 = 62$$

$$384) 9p^2 + 1 = 1495$$



$$385) 7m^2 + 8 = 981$$

$$386) 81x^2 - 3 = 6$$

$$387) 5n^2 - 8 = 12$$

$$388) 12b^2 - 13 = 575$$

$$389) 9 - 2r^2 = -131$$

$$390) 9x^2 + 5 = 41$$

$$391) 49n^2 + 13 = 94$$

$$392) 5a^2 - 7 = 743$$

$$393) 12v^2 - 11 = 2113$$

$$394) 13 - 2x^2 = -301$$

$$395) 121x^2 + 8 = 204$$

$$396) 2 - 5n^2 = -268$$

$$397) 5k^2 - 3 = 627$$

$$398) 7p^2 - 8 = -1$$

$$399) 49x^2 - 12 = -3$$

$$400) 3n^2 + 10 = 310$$

$$401) 16 - 10p^2 = -3304$$

$$402) -10 - 7n^2 = -157$$

$$403) 4x^2 + 3 = 199$$

$$404) 11r^2 + 15 = 290$$

$$405) 19m^2 + 19 = 3230$$

$$406) 15x^2 + 2 = 4997$$

$$407) 18 - 10b^2 = -1$$

$$408) 8n^2 - 11 = 2021$$

$$409) 8x^2 + 1 = 121$$

$$410) 4v^2 + 14 = 1038$$

$$411) 324a^2 + 17 = 306$$

$$412) 400n^2 - 11 = 158$$

$$413) 16v^2 + 13 = 2013$$

$$414) 8x^2 + 1 = 369$$

$$415) 12x^2 - 12 = 0$$

$$416) 4n^2 - 16 = 1128$$

$$417) 20p^2 + 3 = -27$$

$$418) 8k^2 + 13 = 1661$$

$$419) 16n^2 - 16 = -241$$

$$420) 5x^2 - 13 = 222$$

$$421) 20m^2 + 12 = 5792$$

$$422) 16x^2 - 13 = 1235$$

$$423) 9n^2 - 17 = 3556$$

$$424) 12r^2 - 1 = 1199$$

$$425) 5v^2 - 2 = 1188$$

$$426) 196b^2 + 11 = 411$$

$$427) 16x^2 - 14 = 2$$

$$428) -18 - 2n^2 = -410$$

$$429) 12a^2 + 10 = 4786$$

$$430) -2 - 5k^2 = -1597$$

$$431) 9p^2 - 15 = 1281$$

$$432) 5n^2 + 10 = 160$$

$$433) 13x^2 - 19 = 306$$

$$434) -7 - 2r^2 = -249$$

$$435) 9m^2 - 3 = 3147$$

$$436) 13x^2 - 19 = -342$$

$$437) 81b^2 - 4 = 192$$

$$438) 17n^2 + 9 = 4922$$

$$439) 5x^2 - 20 = 1335$$

$$440) 9n^2 + 8 = 584$$

$$441) 13v^2 - 7 = 4556$$

$$442) 6k^2 - 8 = 2284$$

$$443) 4x^2 + 20 = 420$$

$$444) -5 - 20a^2 = -8005$$

$$445) 2x^2 + 7 = 453$$

$$446) 13n^2 - 5 = 1854$$

$$447) 6k^2 - 9 = 855$$

$$448) 10p^2 + 19 = -124$$

$$449) 7 - 20x^2 = -6073$$

$$450) 6n^2 + 3 = 1347$$

$$451) 9r^2 + 19 = 20$$

$$452) 14x^2 + 6 = 902$$

$$453) 17m^2 - 10 = 143$$

$$454) 10b^2 - 10 = 1740$$

$$455) 18n^2 + 2 = 20$$

$$456) 14v^2 + 18 = 1362$$

$$457) 81x^2 + 5 = 14$$

$$458) 64x^2 + 1 = 37$$

$$459) 3a^2 - 11 = 922$$

$$460) 14k^2 + 17 = -329$$

$$461) 1 - 12x^2 = -203$$

$$462) 18p^2 + 4 = 5836$$

$$463) 400n^2 - 12 = 52$$

$$464) 16 + 361m^2 = 160$$

$$465) 11r^2 + 13 = 1421$$

$$466) 3x^2 + 15 = 162$$

$$467) 18b^2 + 16 = 4066$$

$$468) 7n^2 - 13 = 15$$

$$469) 25x^2 - 1 = 288$$

$$470) 12 - 12v^2 = -271$$

$$471) 9n^2 - 13 = 68$$

$$472) 11a^2 + 15 = 4074$$

$$473) 3k^2 + 11 = 1094$$

$$474) -1 - 15x^2 = -1816$$

$$475) 18x^2 - 14 = 1426$$

$$476) 225k^2 + 10 = 206$$

$$477) 14 - 19n^2 = -718$$

$$478) 19p^2 - 2 = 4577$$

$$479) 3n^2 - 19 = 749$$

$$480) 7m^2 + 10 = -104$$



$$481) 11x^2 - 15 = 1756$$

$$482) 19r^2 - 3 = 6096$$

$$483) 15n^2 - 19 = 716$$

$$484) 4x^2 - 16 = 952$$

$$485) 19b^2 + 9 = 636$$

$$486) 11v^2 - 4 = 1580$$

$$487) 8x^2 - 20 = 1524$$

$$488) 15x^2 - 16 = 359$$

$$489) 12a^2 + 8 = 1376$$

$$490) 9k^2 - 4 = 77$$

$$491) 19x^2 + 20 = 5226$$

$$492) 4p^2 - 17 = -16$$

$$493) 11n^2 + 7 = -43$$

$$494) 16m^2 - 5 = 1835$$

$$495) 19 + 196x^2 = 244$$

$$496) 4n^2 + 7 = 1607$$

$$497) 8r^2 - 18 = 3054$$

$$498) 8b^2 - 6 = 1162$$

$$499) 19v^2 - 10 = 1244$$

$$500) 5x^2 + 19 = 1639$$

## Quadratic equations - Solve by taking square roots

Solve one-step equations by taking square roots:

1)  $p^2 = 196$

$\{14, -14\}$

2)  $x^2 = 81$

$\{9, -9\}$

3)  $m^2 = 64$

$\{8, -8\}$

4)  $n^2 = 16$

$\{4, -4\}$

5)  $x^2 = 120$

$\{2\sqrt{30}, -2\sqrt{30}\}$

6)  $r^2 = 50$

$\{5\sqrt{2}, -5\sqrt{2}\}$

7)  $n^2 = 4$

$\{2, -2\}$

8)  $b^2 = 144$

$\{12, -12\}$

9)  $x^2 = 19$

$\{\sqrt{19}, -\sqrt{19}\}$

10)  $v^2 = 182$

$\{\sqrt{182}, -\sqrt{182}\}$

11)  $a^2 = -167$

No solution.

12)  $x^2 = 98$

$\{7\sqrt{2}, -7\sqrt{2}\}$

$$13) p^2 = -187$$

No solution.

$$14) k^2 = 121$$

$\{11, -11\}$

$$15) x^2 = 100$$

$\{10, -10\}$

$$16) n^2 = 67$$

$\{\sqrt{67}, -\sqrt{67}\}$

$$17) m^2 = 138$$

$\{\sqrt{138}, -\sqrt{138}\}$

$$18) x^2 = -24$$

No solution.

$$19) n^2 = 162$$

$\{9\sqrt{2}, -9\sqrt{2}\}$

$$20) b^2 = 37$$

$\{\sqrt{37}, -\sqrt{37}\}$

$$21) k^2 = -77$$

No solution.

$$22) x^2 = 85$$

$\{\sqrt{85}, -\sqrt{85}\}$

$$23) x^2 = 155$$

$\{\sqrt{155}, -\sqrt{155}\}$

$$24) n^2 = 169$$

$\{13, -13\}$

$$25) p^2 = 179$$

$$\{\sqrt{179}, -\sqrt{179}\}$$

$$26) n^2 = 9$$

$$\{3, -3\}$$

$$27) m^2 = 36$$

$$\{6, -6\}$$

$$28) x^2 = 54$$

$$\{3\sqrt{6}, -3\sqrt{6}\}$$

$$29) r^2 = 1$$

$$\{1, -1\}$$

$$30) n^2 = 32$$

$$\{4\sqrt{2}, -4\sqrt{2}\}$$

$$31) v^2 = 173$$

$$\{\sqrt{173}, -\sqrt{173}\}$$

$$32) a^2 = 2$$

$$\{\sqrt{2}, -\sqrt{2}\}$$

$$33) b^2 = 102$$

$$\{\sqrt{102}, -\sqrt{102}\}$$

$$34) p^2 = 25$$

$$\{5, -5\}$$

$$35) k^2 = 72$$

$$\{6\sqrt{2}, -6\sqrt{2}\}$$

$$36) n^2 = -49$$

No solution.

$$37) r^2 = 41$$

$$\{\sqrt{41}, -\sqrt{41}\}$$

$$38) n^2 = 190$$

$$\{\sqrt{190}, -\sqrt{190}\}$$

$$39) x^2 = -138$$

No solution.

$$40) v^2 = 49$$

$$\{7, -7\}$$

$$41) n^2 = 89$$

$$\{\sqrt{89}, -\sqrt{89}\}$$

$$42) x^2 = -171$$

No solution.

$$43) k^2 = -191$$

No solution.

$$44) n^2 = 59$$

$$\{\sqrt{59}, -\sqrt{59}\}$$

$$45) p^2 = 12$$

$$\{2\sqrt{3}, -2\sqrt{3}\}$$

$$46) m^2 = 93$$

$$\{\sqrt{93}, -\sqrt{93}\}$$

$$47) r^2 = 107$$

$$\{\sqrt{107}, -\sqrt{107}\}$$

$$48) v^2 = 6$$

$$\{\sqrt{6}, -\sqrt{6}\}$$

$$49) a^2 = 30$$

$$\{\sqrt{30}, -\sqrt{30}\}$$

$$50) x^2 = 76$$

$$\{2\sqrt{19}, -2\sqrt{19}\}$$

$$51) n^2 = 124$$

$$\{2\sqrt{31}, -2\sqrt{31}\}$$

$$52) n^2 = 23$$

$$\{\sqrt{23}, -\sqrt{23}\}$$

$$53) b^2 = 94$$

$$\{\sqrt{94}, -\sqrt{94}\}$$

$$54) x^2 = 47$$

$$\{\sqrt{47}, -\sqrt{47}\}$$

$$55) v^2 = 164$$

$$\{2\sqrt{41}, -2\sqrt{41}\}$$

$$56) k^2 = 71$$

$$\{\sqrt{71}, -\sqrt{71}\}$$

$$57) a^2 = -196$$

No solution.

$$58) x^2 = -20$$

No solution.

$$59) x^2 = 0$$

$$\{0\}$$

$$60) x^2 = -53$$

No solution.

$$61) n^2 = 119$$

$$\{\sqrt{119}, -\sqrt{119}\}$$

$$62) b^2 = 159$$

$$\{\sqrt{159}, -\sqrt{159}\}$$

$$63) a^2 = 58$$

$$\{\sqrt{58}, -\sqrt{58}\}$$

$$64) k^2 = 129$$

$$\{\sqrt{129}, -\sqrt{129}\}$$

$$65) p^2 = 147$$

$$\{7\sqrt{3}, -7\sqrt{3}\}$$

$$66) x^2 = 177$$

$$\{\sqrt{177}, -\sqrt{177}\}$$

$$67) n^2 = 146$$

$$\{\sqrt{146}, -\sqrt{146}\}$$

$$68) n^2 = -113$$

No solution.

$$69) m^2 = 194$$

$$\{\sqrt{194}, -\sqrt{194}\}$$

$$70) n^2 = 15$$

$$\{\sqrt{15}, -\sqrt{15}\}$$

$$71) x^2 = 133$$

$$\{\sqrt{133}, -\sqrt{133}\}$$

$$72) x^2 = 8$$

$$\{2\sqrt{2}, -2\sqrt{2}\}$$



$$73) x^2 = 111$$

$$\{\sqrt{111}, -\sqrt{111}\}$$

$$74) n^2 = 181$$

$$\{\sqrt{181}, -\sqrt{181}\}$$

$$75) b^2 = 151$$

$$\{\sqrt{151}, -\sqrt{151}\}$$

$$76) v^2 = 26$$

$$\{\sqrt{26}, -\sqrt{26}\}$$

$$77) x^2 = 3$$

$$\{\sqrt{3}, -\sqrt{3}\}$$

$$78) x^2 = 168$$

$$\{2\sqrt{42}, -2\sqrt{42}\}$$

$$79) x^2 = -48$$

No solution.

$$80) b^2 = -28$$

No solution.

$$81) a^2 = 115$$

$$\{\sqrt{115}, -\sqrt{115}\}$$

$$82) k^2 = 185$$

$$\{\sqrt{185}, -\sqrt{185}\}$$

$$83) p^2 = 61$$

$$\{\sqrt{61}, -\sqrt{61}\}$$

$$84) x^2 = -117$$

No solution.

$$85) x^2 = 38$$

$$\{\sqrt{38}, -\sqrt{38}\}$$

$$86) a^2 = 78$$

$$\{\sqrt{78}, -\sqrt{78}\}$$

$$87) m^2 = 56$$

$$\{2\sqrt{14}, -2\sqrt{14}\}$$

$$88) b^2 = 150$$

$$\{5\sqrt{6}, -5\sqrt{6}\}$$

$$89) x^2 = 96$$

$$\{4\sqrt{6}, -4\sqrt{6}\}$$

$$90) x^2 = 65$$

$$\{\sqrt{65}, -\sqrt{65}\}$$

$$91) a^2 = -142$$

No solution.

$$92) p^2 = -162$$

No solution.

$$93) n^2 = 43$$

$$\{\sqrt{43}, -\sqrt{43}\}$$

$$94) m^2 = 113$$

$$\{\sqrt{113}, -\sqrt{113}\}$$

$$95) x^2 = 160$$

$$\{4\sqrt{10}, -4\sqrt{10}\}$$

$$96) x^2 = -195$$

No solution.

$$97) n^2 = 137$$

$$\{\sqrt{137}, -\sqrt{137}\}$$

$$98) v^2 = 83$$

$$\{\sqrt{83}, -\sqrt{83}\}$$

$$99) x^2 = 60$$

$$\{2\sqrt{15}, -2\sqrt{15}\}$$

$$100) n^2 = 183$$

$$\{\sqrt{183}, -\sqrt{183}\}$$

**Solve two-step quadric equations by taking square roots:**

$$101) -3m^2 = -156$$

$$\{2\sqrt{13}, -2\sqrt{13}\}$$

$$102) n^2 + 4 = 38$$

$$\{\sqrt{34}, -\sqrt{34}\}$$

$$103) r^2 + 3 = 12$$

$$\{3, -3\}$$

$$104) 9x^2 = 324$$

$$\{6, -6\}$$

$$105) b^2 + 9 = 25$$

$$\{4, -4\}$$

$$106) n^2 + 3 = 67$$

$$\{8, -8\}$$

$$107) x^2 + 8 = 75$$

$$\{\sqrt{67}, -\sqrt{67}\}$$

$$108) 2v^2 = 96$$

$$\{4\sqrt{3}, -4\sqrt{3}\}$$

$$109) a^2 + 7 = 13$$

$$\{\sqrt{6}, -\sqrt{6}\}$$

$$110) 9n^2 = 1$$

$$\left\{\frac{1}{3}, -\frac{1}{3}\right\}$$

$$111) 5v^2 = 320$$

$$\{8, -8\}$$

$$112) x^2 + 5 = 69$$

$$\{8, -8\}$$

$$113) 7x^2 = 28$$

$$\{2, -2\}$$

$$114) k^2 - 9 = 33$$

$$\{\sqrt{42}, -\sqrt{42}\}$$

$$115) 5p^2 = 95$$

$$\{\sqrt{19}, -\sqrt{19}\}$$

$$116) x^2 - 9 = 30$$

$$\{\sqrt{39}, -\sqrt{39}\}$$

$$117) 36n^2 = 25$$

$$\left\{\frac{5}{6}, -\frac{5}{6}\right\}$$

$$118) n^2 + 5 = 5$$

$$\{0\}$$

$$119) r^2 + 4 = 29$$

$$\{5, -5\}$$

$$120) 100m^2 = 81$$

$$\left\{\frac{9}{10}, -\frac{9}{10}\right\}$$

$$121) 3n^2 = 102$$

$$\{\sqrt{34}, -\sqrt{34}\}$$

$$122) x^2 + 10 = 14$$

$$\{2, -2\}$$

$$123) 10b^2 = 530$$

$$\{\sqrt{53}, -\sqrt{53}\}$$

$$124) 3v^2 = 216$$

$$\{6\sqrt{2}, -6\sqrt{2}\}$$

$$125) x^2 + 9 = 99$$

$$\{3\sqrt{10}, -3\sqrt{10}\}$$

$$126) 4x^2 = 64$$

$$\{4, -4\}$$

$$127) k^2 - 6 = -2$$

$$\{2, -2\}$$

$$128) 64a^2 = 25$$

$$\left\{\frac{5}{8}, -\frac{5}{8}\right\}$$

$$129) 8p^2 = 800$$

$$\{10, -10\}$$

$$130) x^2 - 7 = 79$$

$$\{\sqrt{86}, -\sqrt{86}\}$$

$$131) 7n^2 = 42$$

$$\{\sqrt{6}, -\sqrt{6}\}$$

$$132) m^2 - 8 = 16$$

$$\{2\sqrt{6}, -2\sqrt{6}\}$$

$$133) -8x^2 = -128$$

$$\{4, -4\}$$

$$134) r^2 + 6 = 50$$

$$\{2\sqrt{11}, -2\sqrt{11}\}$$

$$135) n^2 + 6 = 10$$

$$\{2, -2\}$$

$$136) -9b^2 = -729$$

$$\{9, -9\}$$

$$137) -10x^2 = -390$$

$$\{\sqrt{39}, -\sqrt{39}\}$$

$$138) v^2 + 5 = 25$$

$$\{2\sqrt{5}, -2\sqrt{5}\}$$

$$139) -4n^2 = -232$$

$$\{\sqrt{58}, -\sqrt{58}\}$$

$$140) a^2 - 10 = 67$$

$$\{\sqrt{77}, -\sqrt{77}\}$$

$$141) -4k^2 = -36$$

$$\{3, -3\}$$

$$142) x^2 + 10 = 19$$

$$\{3, -3\}$$

$$143) n^2 + 9 = 58$$

$$\{7, -7\}$$

$$144) 25x^2 = 49$$

$$\left\{1\frac{2}{5}, -1\frac{2}{5}\right\}$$

$$145) k^2 - 6 = 67$$

$$\{\sqrt{73}, -\sqrt{73}\}$$

$$146) x^2 - 6 = 5$$

$$\{\sqrt{11}, -\sqrt{11}\}$$

$$147) 9p^2 = 819$$

$$\{\sqrt{91}, -\sqrt{91}\}$$

$$148) m^2 - 7 = 2$$

$$\{3, -3\}$$

$$149) 8n^2 = 248$$

$$\{\sqrt{31}, -\sqrt{31}\}$$

$$150) 64x^2 = 4$$

$$\left\{\frac{1}{4}, -\frac{1}{4}\right\}$$

$$151) -r^2 = -36$$

$$\{6, -6\}$$

$$152) -8b^2 = -560$$

$$\{\sqrt{70}, -\sqrt{70}\}$$

$$153) n^2 - 1 = 6$$

$$\{\sqrt{7}, -\sqrt{7}\}$$

$$154) x^2 - 9 = -6$$

$$\{\sqrt{3}, -\sqrt{3}\}$$

$$155) -2v^2 = -88$$

$$\{2\sqrt{11}, -2\sqrt{11}\}$$

$$156) x^2 - 3 = 6$$

$$\{3, -3\}$$

$$157) a^2 - 10 = -10$$

$$\{0\}$$

$$158) p^2 - 10 = 15$$

$$\{5, -5\}$$

$$159) 9k^2 = 4$$

$$\left\{\frac{2}{3}, -\frac{2}{3}\right\}$$

$$160) x^2 - 4 = 54$$

$$\{\sqrt{58}, -\sqrt{58}\}$$

$$161) 2n^2 = 156$$

$$\{\sqrt{78}, -\sqrt{78}\}$$

$$162) m^2 - 5 = 92$$

$$\{\sqrt{97}, -\sqrt{97}\}$$

$$163) 2r^2 = 70$$

$$\{\sqrt{35}, -\sqrt{35}\}$$

$$164) x^2 - 5 = -4$$

$$\{1, -1\}$$

$$165) 2n^2 = 200$$

$$\{10, -10\}$$

$$166) b^2 - 6 = 19$$

$$\{5, -5\}$$

$$167) v^2 + 10 = 43$$

$$\{\sqrt{33}, -\sqrt{33}\}$$

$$168) n^2 + 9 = 109$$

$$\{10, -10\}$$



$$169) -7x^2 = -84$$
$$\{2\sqrt{3}, -2\sqrt{3}\}$$

$$170) k^2 - 1 = 0$$
$$\{1, -1\}$$

$$171) 5x^2 = 500$$
$$\{10, -10\}$$

$$172) -7a^2 = -630$$
$$\{3\sqrt{10}, -3\sqrt{10}\}$$

$$173) -2x^2 = -72$$
$$\{6, -6\}$$

$$174) n^2 + 4 = 8$$
$$\{2, -2\}$$

$$175) -2m^2 = -90$$
$$\{3\sqrt{5}, -3\sqrt{5}\}$$

$$176) p^2 + 4 = 103$$
$$\{3\sqrt{11}, -3\sqrt{11}\}$$

$$177) -3x^2 = -249$$
$$\{\sqrt{83}, -\sqrt{83}\}$$

$$178) n^2 + 3 = 6$$
$$\{\sqrt{3}, -\sqrt{3}\}$$

$$179) m^2 - 4 = 60$$
$$\{8, -8\}$$

$$180) x^2 - 4 = 0$$
$$\{2, -2\}$$

$$181) 2r^2 = 72$$

$$\{6, -6\}$$

$$182) b^2 + 8 = 106$$

$$\{7\sqrt{2}, -7\sqrt{2}\}$$

$$183) 7x^2 = 679$$

$$\{\sqrt{97}, -\sqrt{97}\}$$

$$184) 49v^2 = 64$$

$$\left\{1\frac{1}{7}, -1\frac{1}{7}\right\}$$

$$185) x^2 - 7 = 57$$

$$\{8, -8\}$$

$$186) 49a^2 = 25$$

$$\left\{\frac{5}{7}, -\frac{5}{7}\right\}$$

$$187) 6p^2 = 384$$

$$\{8, -8\}$$

$$188) k^2 - 7 = 90$$

$$\{\sqrt{97}, -\sqrt{97}\}$$

$$189) x^2 - 1 = 31$$

$$\{4\sqrt{2}, -4\sqrt{2}\}$$

$$190) -2m^2 = -138$$

$$\{\sqrt{69}, -\sqrt{69}\}$$

$$191) n^2 + 5 = 55$$

$$\{5\sqrt{2}, -5\sqrt{2}\}$$

$$192) x^2 - 10 = 26$$

$$\{6, -6\}$$

$$193) 4n^2 = 4$$

$$\{1, -1\}$$

$$194) r^2 + 5 = 93$$

$$\{2\sqrt{22}, -2\sqrt{22}\}$$

$$195) b^2 + 10 = 10$$

$$\{0\}$$

$$196) 3v^2 = 48$$

$$\{4, -4\}$$

$$197) 3n^2 = 87$$

$$\{\sqrt{29}, -\sqrt{29}\}$$

$$198) x^2 + 10 = 93$$

$$\{\sqrt{83}, -\sqrt{83}\}$$

$$199) k^2 + 2 = 43$$

$$\{\sqrt{41}, -\sqrt{41}\}$$

$$200) 9a^2 = 198$$

$$\{\sqrt{22}, -\sqrt{22}\}$$

$$201) -15x^2 = -4335$$

$$\{17, -17\}$$

$$202) x^2 + 14 = 295$$

$$\{\sqrt{281}, -\sqrt{281}\}$$

$$203) -6n^2 = -1308$$

$$\{\sqrt{218}, -\sqrt{218}\}$$

$$204) m^2 + 14 = 50$$

$$\{6, -6\}$$

$$205) p^2 + 2 = 94$$

$$\{2\sqrt{23}, -2\sqrt{23}\}$$

$$206) -19x^2 = -532$$

$$\{2\sqrt{7}, -2\sqrt{7}\}$$

$$207) n^2 + 10 = 374$$

$$\{2\sqrt{91}, -2\sqrt{91}\}$$

$$208) -11m^2 = -2816$$

$$\{16, -16\}$$

$$209) r^2 + 19 = 44$$

$$\{5, -5\}$$

$$210) -2x^2 = -248$$

$$\{2\sqrt{31}, -2\sqrt{31}\}$$

$$211) -14n^2 = -2366$$

$$\{13, -13\}$$

$$212) b^2 + 6 = 295$$

$$\{17, -17\}$$

$$213) -6v^2 = -1944$$

$$\{18, -18\}$$

$$214) x^2 + 14 = 284$$

$$\{3\sqrt{30}, -3\sqrt{30}\}$$

$$215) -6x^2 = -1242$$

$$\{3\sqrt{23}, -3\sqrt{23}\}$$

$$216) a^2 - 18 = 238$$

$$\{16, -16\}$$

$$217) -10p^2 = -170$$

$$\{\sqrt{17}, -\sqrt{17}\}$$

$$218) k^2 + 2 = 82$$

$$\{4\sqrt{5}, -4\sqrt{5}\}$$

$$219) x^2 + 10 = -8$$

No solution.

$$220) -2n^2 = -480$$

$$\{4\sqrt{15}, -4\sqrt{15}\}$$

$$221) m^2 + 19 = 55$$

$$\{6, -6\}$$

$$222) 7r^2 = 791$$

$$\{\sqrt{113}, -\sqrt{113}\}$$

$$223) n^2 + 15 = 40$$

$$\{5, -5\}$$

$$224) -6b^2 = -2166$$

$$\{19, -19\}$$

$$225) -14x^2 = -700$$

$$\{5\sqrt{2}, -5\sqrt{2}\}$$

$$226) 196v^2 = 16$$

$$\left\{\frac{2}{7}, -\frac{2}{7}\right\}$$

$$227) -18n^2 = -1458$$

$$\{9, -9\}$$

$$228) x^2 + 3 = -23$$

No solution.

$$229) -10k^2 = -3550$$
$$\{\sqrt{355}, -\sqrt{355}\}$$

$$230) 121a^2 = 1$$
$$\left\{\frac{1}{11}, -\frac{1}{11}\right\}$$

$$231) x^2 + 19 = 311$$
$$\{2\sqrt{73}, -2\sqrt{73}\}$$

$$232) -13n^2 = -1573$$
$$\{11, -11\}$$

$$233) -x^2 = -228$$
$$\{2\sqrt{57}, -2\sqrt{57}\}$$

$$234) m^2 + 7 = -23$$

No solution.

$$235) x^2 + 15 = 64$$
$$\{7, -7\}$$

$$236) -6n^2 = -1014$$
$$\{13, -13\}$$

$$237) -5p^2 = -1935$$
$$\{3\sqrt{43}, -3\sqrt{43}\}$$

$$238) b^2 - 17 = 181$$
$$\{3\sqrt{22}, -3\sqrt{22}\}$$

$$239) -9x^2 = -900$$
$$\{10, -10\}$$

$$240) r^2 + 3 = 137$$
$$\{\sqrt{134}, -\sqrt{134}\}$$

$$241) n^2 + 11 = 47$$

$$\{6, -6\}$$

$$242) -b^2 = 28$$

No solution.

$$243) v^2 + 19 = 299$$

$$\{2\sqrt{70}, -2\sqrt{70}\}$$

$$244) 8x^2 = 3200$$

$$\{20, -20\}$$

$$245) a^2 + 16 = 57$$

$$\{\sqrt{41}, -\sqrt{41}\}$$

$$246) 169x^2 = 144$$

$$\left\{\frac{12}{13}, -\frac{12}{13}\right\}$$

$$247) p^2 + 15 = 328$$

$$\{\sqrt{313}, -\sqrt{313}\}$$

$$248) 3x^2 = -780$$

No solution.

$$249) n^2 - 17 = -32$$

No solution.

$$250) -5k^2 = -1880$$

$$\{2\sqrt{94}, -2\sqrt{94}\}$$

$$251) m^2 + 12 = 135$$

$$\{\sqrt{123}, -\sqrt{123}\}$$

$$252) -9r^2 = -1296$$

$$\{12, -12\}$$

$$253) x^2 + 20 = 84$$

$$\{8, -8\}$$

$$254) -n^2 = -256$$

$$\{16, -16\}$$

$$255) b^2 - 13 = 206$$

$$\{\sqrt{219}, -\sqrt{219}\}$$

$$256) 8v^2 = 8$$

$$\{1, -1\}$$

$$257) -4x^2 = 76$$

No solution.

$$258) -5a^2 = -1825$$

$$\{\sqrt{365}, -\sqrt{365}\}$$

$$259) n^2 + 16 = 52$$

$$\{6, -6\}$$

$$260) x^2 + 3 = 327$$

$$\{18, -18\}$$

$$261) x^2 - 8 = 117$$

$$\{5\sqrt{5}, -5\sqrt{5}\}$$

$$262) -17k^2 = -4284$$

$$\{6\sqrt{7}, -6\sqrt{7}\}$$

$$263) n^2 + 12 = 74$$

$$\{\sqrt{62}, -\sqrt{62}\}$$

$$264) -5m^2 = -1925$$

$$\{\sqrt{385}, -\sqrt{385}\}$$



$$265) p^2 + 20 = 12$$

No solution.

$$266) x^2 + 8 = 297$$

$\{17, -17\}$

$$267) -12n^2 = -2496$$

$\{4\sqrt{13}, -4\sqrt{13}\}$

$$268) b^2 + 17 = 306$$

$\{17, -17\}$

$$269) -4r^2 = -196$$

$\{7, -7\}$

$$270) x^2 + 16 = 80$$

$\{8, -8\}$

$$271) -17b^2 = 969$$

No solution.

$$272) 4n^2 = 1216$$

$\{4\sqrt{19}, -4\sqrt{19}\}$

$$273) v^2 + 13 = -4$$

No solution.

$$274) -8x^2 = -648$$

$\{9, -9\}$

$$275) x^2 - 20 = 31$$

$\{\sqrt{51}, -\sqrt{51}\}$

$$276) -7a^2 = -847$$

$\{11, -11\}$

$$277) k^2 - 12 = 349$$

$$\{19, -19\}$$

$$278) p^2 + 8 = 218$$

$$\{\sqrt{210}, -\sqrt{210}\}$$

$$279) -3x^2 = 45$$

No solution.

$$280) n^2 + 17 = 10$$

No solution.

$$281) 16m^2 = 81$$

$$\left\{2\frac{1}{4}, -2\frac{1}{4}\right\}$$

$$282) 4x^2 = 1172$$

$$\{\sqrt{293}, -\sqrt{293}\}$$

$$283) r^2 - 16 = 308$$

$$\{18, -18\}$$

$$284) -8n^2 = -288$$

$$\{6, -6\}$$

$$285) b^2 + 13 = 94$$

$$\{9, -9\}$$

$$286) 49v^2 = 361$$

$$\left\{2\frac{5}{7}, -2\frac{5}{7}\right\}$$

$$287) x^2 - 20 = -23$$

No solution.

$$288) 9n^2 = -1755$$

No solution.

$$289) a^2 - 12 = 52$$

$$\{8, -8\}$$

$$290) 17k^2 = 3383$$

$$\{\sqrt{199}, -\sqrt{199}\}$$

$$291) x^2 + 17 = 89$$

$$\{6\sqrt{2}, -6\sqrt{2}\}$$

$$292) -3x^2 = -405$$

$$\{3\sqrt{15}, -3\sqrt{15}\}$$

$$293) 5n^2 = 1610$$

$$\{\sqrt{322}, -\sqrt{322}\}$$

$$294) m^2 - 16 = 384$$

$$\{20, -20\}$$

$$295) x^2 - 8 = -36$$

No solution.

$$296) 13p^2 = -3458$$

No solution.

$$297) n^2 - 19 = 342$$

$$\{19, -19\}$$

$$298) 14b^2 = 4522$$

$$\{\sqrt{323}, -\sqrt{323}\}$$

$$299) r^2 - 11 = 313$$

$$\{18, -18\}$$

$$300) x^2 + 9 = 323$$

$$\{\sqrt{314}, -\sqrt{314}\}$$

**Solve three-step quadric equations by taking square roots:**

301)  $169n^2 + 6 = 175$

$\{1, -1\}$

302)  $7a^2 - 1 = 699$

$\{10, -10\}$

303)  $3x^2 - 10 = 59$

$\{\sqrt{23}, -\sqrt{23}\}$

304)  $14v^2 - 6 = 2668$

$\{\sqrt{191}, -\sqrt{191}\}$

305)  $12a^2 + 7 = 2359$

$\{14, -14\}$

306)  $10x^2 + 14 = 514$

$\{5\sqrt{2}, -5\sqrt{2}\}$

307)  $6k^2 + 3 = 621$

$\{\sqrt{103}, -\sqrt{103}\}$

308)  $9p^2 - 2 = 1168$

$\{\sqrt{130}, -\sqrt{130}\}$

309)  $-9 - 13x^2 = -2037$

$\{2\sqrt{39}, -2\sqrt{39}\}$

310)  $12m^2 + 11 = 95$

$\{\sqrt{7}, -\sqrt{7}\}$

311)  $5n^2 - 13 = 487$

$\{10, -10\}$

312)  $14r^2 + 6 = 482$

$\{\sqrt{34}, -\sqrt{34}\}$

$$313) 8x^2 + 4 = 356$$
$$\{2\sqrt{11}, -2\sqrt{11}\}$$

$$314) 5b^2 - 10 = 70$$
$$\{4, -4\}$$

$$315) -14 - 4v^2 = -578$$
$$\{\sqrt{141}, -\sqrt{141}\}$$

$$316) 121n^2 - 5 = 20$$
$$\left\{\frac{5}{11}, -\frac{5}{11}\right\}$$

$$317) 14x^2 + 8 = 2374$$
$$\{13, -13\}$$

$$318) 10a^2 - 1 = 179$$
$$\{3\sqrt{2}, -3\sqrt{2}\}$$

$$319) 36n^2 + 3 = 199$$
$$\left\{2\frac{1}{3}, -2\frac{1}{3}\right\}$$

$$320) 5k^2 - 6 = 219$$
$$\{3\sqrt{5}, -3\sqrt{5}\}$$

$$321) -13 - 9x^2 = -652$$
$$\{\sqrt{71}, -\sqrt{71}\}$$

$$322) 14x^2 + 11 = 2377$$
$$\{13, -13\}$$

$$323) 10m^2 + 2 = 1512$$
$$\{\sqrt{151}, -\sqrt{151}\}$$

$$324) 7 - 13n^2 = -1618$$
$$\{5\sqrt{5}, -5\sqrt{5}\}$$

$$325) 4p^2 - 5 = 571$$

$$\{12, -12\}$$

$$326) 7x^2 - 9 = 54$$

$$\{3, -3\}$$

$$327) 8 - 13b^2 = -707$$

$$\{\sqrt{55}, -\sqrt{55}\}$$

$$328) 64n^2 - 14 = 86$$

$$\left\{1\frac{1}{4}, -1\frac{1}{4}\right\}$$

$$329) 10r^2 + 4 = 44$$

$$\{2, -2\}$$

$$330) 144x^2 - 1 = 48$$

$$\left\{\frac{7}{12}, -\frac{7}{12}\right\}$$

$$331) 6n^2 - 6 = 720$$

$$\{11, -11\}$$

$$332) 9a^2 - 12 = 1446$$

$$\{9\sqrt{2}, -9\sqrt{2}\}$$

$$333) 3v^2 + 12 = 579$$

$$\{3\sqrt{21}, -3\sqrt{21}\}$$

$$334) 169x^2 + 7 = 88$$

$$\left\{\frac{9}{13}, -\frac{9}{13}\right\}$$

$$335) 12x^2 + 3 = 567$$

$$\{\sqrt{47}, -\sqrt{47}\}$$

$$336) 9k^2 - 9 = 828$$

$$\{\sqrt{93}, -\sqrt{93}\}$$

$$337) 6a^2 - 4 = 392$$

$$\{\sqrt{66}, -\sqrt{66}\}$$

$$338) 3p^2 - 14 = 94$$

$$\{6, -6\}$$

$$339) 5x^2 + 11 = 616$$

$$\{11, -11\}$$

$$340) 12n^2 + 4 = 2080$$

$$\{\sqrt{173}, -\sqrt{173}\}$$

$$341) 8r^2 - 5 = 27$$

$$\{2, -2\}$$

$$342) 14m^2 - 1 = 503$$

$$\{6, -6\}$$

$$343) 11x^2 - 12 = 527$$

$$\{7, -7\}$$

$$344) 5n^2 + 12 = 397$$

$$\{\sqrt{77}, -\sqrt{77}\}$$

$$345) 14v^2 + 3 = 507$$

$$\{6, -6\}$$

$$346) 100x^2 - 4 = -3$$

$$\left\{\frac{1}{10}, -\frac{1}{10}\right\}$$

$$347) 7b^2 + 8 = 736$$

$$\{2\sqrt{26}, -2\sqrt{26}\}$$

$$348) -8 - 6n^2 = -1112$$

$$\{2\sqrt{46}, -2\sqrt{46}\}$$

$$349) 5a^2 - 13 = 677$$
$$\{\sqrt{138}, -\sqrt{138}\}$$

$$350) 11 + 196k^2 = 132$$
$$\left\{\frac{11}{14}, -\frac{11}{14}\right\}$$

$$351) 14x^2 + 5 = 971$$
$$\{\sqrt{69}, -\sqrt{69}\}$$

$$352) 10n^2 - 5 = 1145$$
$$\{\sqrt{115}, -\sqrt{115}\}$$

$$353) 3x^2 + 8 = 356$$
$$\{2\sqrt{29}, -2\sqrt{29}\}$$

$$354) 12m^2 - 10 = 422$$
$$\{6, -6\}$$

$$355) 9x^2 + 8 = 1763$$
$$\{\sqrt{195}, -\sqrt{195}\}$$

$$356) 13 - 9p^2 = -887$$
$$\{10, -10\}$$

$$357) 3 + 25n^2 = 103$$
$$\{2, -2\}$$

$$358) 12r^2 - 8 = 2344$$
$$\{14, -14\}$$

$$359) 6x^2 - 13 = 629$$
$$\{\sqrt{107}, -\sqrt{107}\}$$

$$360) 10b^2 - 3 = 807$$
$$\{9, -9\}$$



$$361) 9n^2 + 12 = 1137$$

$$\{5\sqrt{5}, -5\sqrt{5}\}$$

$$362) 5 - 13a^2 = -2192$$

$$\{13, -13\}$$

$$363) 5v^2 - 2 = 83$$

$$\{\sqrt{17}, -\sqrt{17}\}$$

$$364) 14x^2 - 9 = 509$$

$$\{\sqrt{37}, -\sqrt{37}\}$$

$$365) 12x^2 - 4 = 128$$

$$\{\sqrt{11}, -\sqrt{11}\}$$

$$366) 144k^2 + 9 = 34$$

$$\left\{\frac{5}{12}, -\frac{5}{12}\right\}$$

$$367) 8n^2 + 13 = 1525$$

$$\{3\sqrt{21}, -3\sqrt{21}\}$$

$$368) 5p^2 + 4 = 594$$

$$\{\sqrt{118}, -\sqrt{118}\}$$

$$369) -1 - 4x^2 = -545$$

$$\{2\sqrt{34}, -2\sqrt{34}\}$$

$$370) 8m^2 - 12 = 60$$

$$\{3, -3\}$$

$$371) 14n^2 - 7 = 2359$$

$$\{13, -13\}$$

$$372) 11r^2 + 12 = 716$$

$$\{8, -8\}$$

$$373) 5x^2 + 5 = 245$$

$$\{4\sqrt{3}, -4\sqrt{3}\}$$

$$374) 7n^2 + 1 = 568$$

$$\{9, -9\}$$

$$375) 14b^2 - 4 = 2362$$

$$\{13, -13\}$$

$$376) 10x^2 + 14 = 1484$$

$$\{7\sqrt{3}, -7\sqrt{3}\}$$

$$377) 3v^2 - 9 = 375$$

$$\{8\sqrt{2}, -8\sqrt{2}\}$$

$$378) 13n^2 + 9 = 2271$$

$$\{\sqrt{174}, -\sqrt{174}\}$$

$$379) 25a^2 + 4 = 148$$

$$\left\{2\frac{2}{5}, -2\frac{2}{5}\right\}$$

$$380) 14k^2 - 6 = 1688$$

$$\{11, -11\}$$

$$381) -12 - 6x^2 = -528$$

$$\{\sqrt{86}, -\sqrt{86}\}$$

$$382) 3p^2 - 7 = 170$$

$$\{\sqrt{59}, -\sqrt{59}\}$$

$$383) 196n^2 + 13 = 62$$

$$\left\{\frac{1}{2}, -\frac{1}{2}\right\}$$

$$384) 9p^2 + 1 = 1495$$

$$\{\sqrt{166}, -\sqrt{166}\}$$

$$385) 7m^2 + 8 = 981$$
$$\{\sqrt{139}, -\sqrt{139}\}$$

$$386) 81x^2 - 3 = 6$$
$$\left\{\frac{1}{3}, -\frac{1}{3}\right\}$$

$$387) 5n^2 - 8 = 12$$
$$\{2, -2\}$$

$$388) 12b^2 - 13 = 575$$
$$\{7, -7\}$$

$$389) 9 - 2r^2 = -131$$
$$\{\sqrt{70}, -\sqrt{70}\}$$

$$390) 9x^2 + 5 = 41$$
$$\{2, -2\}$$

$$391) 49n^2 + 13 = 94$$
$$\left\{1\frac{2}{7}, -1\frac{2}{7}\right\}$$

$$392) 5a^2 - 7 = 743$$
$$\{5\sqrt{6}, -5\sqrt{6}\}$$

$$393) 12v^2 - 11 = 2113$$
$$\{\sqrt{177}, -\sqrt{177}\}$$

$$394) 13 - 2x^2 = -301$$
$$\{\sqrt{157}, -\sqrt{157}\}$$

$$395) 121x^2 + 8 = 204$$
$$\left\{1\frac{3}{11}, -1\frac{3}{11}\right\}$$

$$396) 2 - 5n^2 = -268$$
$$\{3\sqrt{6}, -3\sqrt{6}\}$$

$$397) 5k^2 - 3 = 627$$
$$\{3\sqrt{14}, -3\sqrt{14}\}$$

$$398) 7p^2 - 8 = -1$$
$$\{1, -1\}$$

$$399) 49x^2 - 12 = -3$$
$$\left\{\frac{3}{7}, -\frac{3}{7}\right\}$$

$$400) 3n^2 + 10 = 310$$
$$\{10, -10\}$$

$$401) 16 - 10p^2 = -3304$$
$$\{2\sqrt{83}, -2\sqrt{83}\}$$

$$402) -10 - 7n^2 = -157$$
$$\{\sqrt{21}, -\sqrt{21}\}$$

$$403) 4x^2 + 3 = 199$$
$$\{7, -7\}$$

$$404) 11r^2 + 15 = 290$$
$$\{5, -5\}$$

$$405) 19m^2 + 19 = 3230$$
$$\{13, -13\}$$

$$406) 15x^2 + 2 = 4997$$
$$\{3\sqrt{37}, -3\sqrt{37}\}$$

$$407) 18 - 10b^2 = -1$$
$$\left\{\frac{\sqrt{190}}{10}, -\frac{\sqrt{190}}{10}\right\}$$

$$408) 8n^2 - 11 = 2021$$
$$\{\sqrt{254}, -\sqrt{254}\}$$

$$409) 8x^2 + 1 = 121$$

$$\{\sqrt{15}, -\sqrt{15}\}$$

$$410) 4v^2 + 14 = 1038$$

$$\{16, -16\}$$

$$411) 324a^2 + 17 = 306$$

$$\left\{\frac{17}{18}, -\frac{17}{18}\right\}$$

$$412) 400n^2 - 11 = 158$$

$$\left\{\frac{13}{20}, -\frac{13}{20}\right\}$$

$$413) 16v^2 + 13 = 2013$$

$$\{5\sqrt{5}, -5\sqrt{5}\}$$

$$414) 8x^2 + 1 = 369$$

$$\{\sqrt{46}, -\sqrt{46}\}$$

$$415) 12x^2 - 12 = 0$$

$$\{1, -1\}$$

$$416) 4n^2 - 16 = 1128$$

$$\{\sqrt{286}, -\sqrt{286}\}$$

$$417) 20p^2 + 3 = -27$$

No solution.

$$418) 8k^2 + 13 = 1661$$

$$\{\sqrt{206}, -\sqrt{206}\}$$

$$419) 16n^2 - 16 = -241$$

No solution.

$$420) 5x^2 - 13 = 222$$

$$\{\sqrt{47}, -\sqrt{47}\}$$

$$421) 20m^2 + 12 = 5792$$

$$\{17, -17\}$$

$$422) 16x^2 - 13 = 1235$$

$$\{\sqrt{78}, -\sqrt{78}\}$$

$$423) 9n^2 - 17 = 3556$$

$$\{\sqrt{397}, -\sqrt{397}\}$$

$$424) 12r^2 - 1 = 1199$$

$$\{10, -10\}$$

$$425) 5v^2 - 2 = 1188$$

$$\{\sqrt{238}, -\sqrt{238}\}$$

$$426) 196b^2 + 11 = 411$$

$$\left\{1\frac{3}{7}, -1\frac{3}{7}\right\}$$

$$427) 16x^2 - 14 = 2$$

$$\{1, -1\}$$

$$428) -18 - 2n^2 = -410$$

$$\{14, -14\}$$

$$429) 12a^2 + 10 = 4786$$

$$\{\sqrt{398}, -\sqrt{398}\}$$

$$430) -2 - 5k^2 = -1597$$

$$\{\sqrt{319}, -\sqrt{319}\}$$

$$431) 9p^2 - 15 = 1281$$

$$\{12, -12\}$$

$$432) 5n^2 + 10 = 160$$

$$\{\sqrt{30}, -\sqrt{30}\}$$

$$433) 13x^2 - 19 = 306$$

$$\{5, -5\}$$

$$434) -7 - 2r^2 = -249$$

$$\{11, -11\}$$

$$435) 9m^2 - 3 = 3147$$

$$\{5\sqrt{14}, -5\sqrt{14}\}$$

$$436) 13x^2 - 19 = -342$$

No solution.

$$437) 81b^2 - 4 = 192$$

$$\left\{1\frac{5}{9}, -1\frac{5}{9}\right\}$$

$$438) 17n^2 + 9 = 4922$$

$$\{17, -17\}$$

$$439) 5x^2 - 20 = 1335$$

$$\{\sqrt{271}, -\sqrt{271}\}$$

$$440) 9n^2 + 8 = 584$$

$$\{8, -8\}$$

$$441) 13v^2 - 7 = 4556$$

$$\{3\sqrt{39}, -3\sqrt{39}\}$$

$$442) 6k^2 - 8 = 2284$$

$$\{\sqrt{382}, -\sqrt{382}\}$$

$$443) 4x^2 + 20 = 420$$

$$\{10, -10\}$$

$$444) -5 - 20a^2 = -8005$$

$$\{20, -20\}$$

$$445) 2x^2 + 7 = 453$$
$$\{\sqrt{223}, -\sqrt{223}\}$$

$$446) 13n^2 - 5 = 1854$$
$$\{\sqrt{143}, -\sqrt{143}\}$$

$$447) 6k^2 - 9 = 855$$
$$\{12, -12\}$$

$$448) 10p^2 + 19 = -124$$

No solution.

$$449) 7 - 20x^2 = -6073$$
$$\{4\sqrt{19}, -4\sqrt{19}\}$$

$$450) 6n^2 + 3 = 1347$$
$$\{4\sqrt{14}, -4\sqrt{14}\}$$

$$451) 9r^2 + 19 = 20$$
$$\left\{\frac{1}{3}, -\frac{1}{3}\right\}$$

$$452) 14x^2 + 6 = 902$$
$$\{8, -8\}$$

$$453) 17m^2 - 10 = 143$$
$$\{3, -3\}$$

$$454) 10b^2 - 10 = 1740$$
$$\{5\sqrt{7}, -5\sqrt{7}\}$$

$$455) 18n^2 + 2 = 20$$
$$\{1, -1\}$$

$$456) 14v^2 + 18 = 1362$$
$$\{4\sqrt{6}, -4\sqrt{6}\}$$



$$457) 81x^2 + 5 = 14$$

$$\left\{ \frac{1}{3}, -\frac{1}{3} \right\}$$

$$458) 64x^2 + 1 = 37$$

$$\left\{ \frac{3}{4}, -\frac{3}{4} \right\}$$

$$459) 3a^2 - 11 = 922$$

$$\{\sqrt{311}, -\sqrt{311}\}$$

$$460) 14k^2 + 17 = -329$$

No solution.

$$461) 1 - 12x^2 = -203$$

$$\{\sqrt{17}, -\sqrt{17}\}$$

$$462) 18p^2 + 4 = 5836$$

$$\{18, -18\}$$

$$463) 400n^2 - 12 = 52$$

$$\left\{ \frac{2}{5}, -\frac{2}{5} \right\}$$

$$464) 16 + 361m^2 = 160$$

$$\left\{ \frac{12}{19}, -\frac{12}{19} \right\}$$

$$465) 11r^2 + 13 = 1421$$

$$\{8\sqrt{2}, -8\sqrt{2}\}$$

$$466) 3x^2 + 15 = 162$$

$$\{7, -7\}$$

$$467) 18b^2 + 16 = 4066$$

$$\{15, -15\}$$

$$468) 7n^2 - 13 = 15$$

$$\{2, -2\}$$

$$469) 25x^2 - 1 = 288$$

$$\left\{3\frac{2}{5}, -3\frac{2}{5}\right\}$$

$$470) 12 - 12v^2 = -271$$

$$\left\{\frac{\sqrt{849}}{6}, -\frac{\sqrt{849}}{6}\right\}$$

$$471) 9n^2 - 13 = 68$$

$$\{3, -3\}$$

$$472) 11a^2 + 15 = 4074$$

$$\{3\sqrt{41}, -3\sqrt{41}\}$$

$$473) 3k^2 + 11 = 1094$$

$$\{19, -19\}$$

$$474) -1 - 15x^2 = -1816$$

$$\{11, -11\}$$

$$475) 18x^2 - 14 = 1426$$

$$\{4\sqrt{5}, -4\sqrt{5}\}$$

$$476) 225k^2 + 10 = 206$$

$$\left\{\frac{14}{15}, -\frac{14}{15}\right\}$$

$$477) 14 - 19n^2 = -718$$

$$\left\{\frac{2\sqrt{3477}}{19}, -\frac{2\sqrt{3477}}{19}\right\}$$

$$478) 19p^2 - 2 = 4577$$

$$\{\sqrt{241}, -\sqrt{241}\}$$

$$479) 3n^2 - 19 = 749$$

$$\{16, -16\}$$

$$480) 7m^2 + 10 = -104$$

No solution.

$$481) 11x^2 - 15 = 1756$$

$$\{\sqrt{161}, -\sqrt{161}\}$$

$$482) 19r^2 - 3 = 6096$$

$$\{\sqrt{321}, -\sqrt{321}\}$$

$$483) 15n^2 - 19 = 716$$

$$\{7, -7\}$$

$$484) 4x^2 - 16 = 952$$

$$\{11\sqrt{2}, -11\sqrt{2}\}$$

$$485) 19b^2 + 9 = 636$$

$$\{\sqrt{33}, -\sqrt{33}\}$$

$$486) 11v^2 - 4 = 1580$$

$$\{12, -12\}$$

$$487) 8x^2 - 20 = 1524$$

$$\{\sqrt{193}, -\sqrt{193}\}$$

$$488) 15x^2 - 16 = 359$$

$$\{5, -5\}$$

$$489) 12a^2 + 8 = 1376$$

$$\{\sqrt{114}, -\sqrt{114}\}$$

$$490) 9k^2 - 4 = 77$$

$$\{3, -3\}$$

$$491) 19x^2 + 20 = 5226$$

$$\{\sqrt{274}, -\sqrt{274}\}$$

$$492) 4p^2 - 17 = -16$$

$$\left\{\frac{1}{2}, -\frac{1}{2}\right\}$$

$$493) 11n^2 + 7 = -43$$

No solution.

$$494) 16m^2 - 5 = 1835$$

$$\{\sqrt{115}, -\sqrt{115}\}$$

$$495) 19 + 196x^2 = 244$$

$$\left\{1\frac{1}{14}, -1\frac{1}{14}\right\}$$

$$496) 4n^2 + 7 = 1607$$

$$\{20, -20\}$$

$$497) 8r^2 - 18 = 3054$$

$$\{8\sqrt{6}, -8\sqrt{6}\}$$

$$498) 8b^2 - 6 = 1162$$

$$\{\sqrt{146}, -\sqrt{146}\}$$

$$499) 19v^2 - 10 = 1244$$

$$\{\sqrt{66}, -\sqrt{66}\}$$

$$500) 5x^2 + 19 = 1639$$

$$\{18, -18\}$$