

## Quadratic equations - Solve by factoring

**Solve level 1 complexity equations:**

1)  $2(3r + 4)(r - 3) = 0$

2)  $2(x + 1)(x + 4) = 0$

3)  $4(3n + 1)(n + 5) = 0$

4)  $4(a + 3)(a + 2) = 0$

5)  $4(v - 2)(2v + 5) = 0$

6)  $5(x - 2)(x + 1) = 0$

7)  $3(x - 3)(x + 5) = 0$

8)  $2(k - 2)(3k - 1) = 0$

9)  $3(n - 1)(2n + 1) = 0$

10)  $2(p + 5)(5p - 4) = 0$

$$11) 4(4x - 3)(x - 1) = 0$$

$$12) 3(3n - 1)(5n + 1) = 0$$

$$13) 2(m + 3)(m - 2) = 0$$

$$14) 2(3r + 1)(5r - 3) = 0$$

$$15) 5(x + 4)(x - 1) = 0$$

$$16) 5(n + 3)(n - 4) = 0$$

$$17) 5(4b - 1)(b - 3) = 0$$

$$18) 2(v - 4)(v - 2) = 0$$

$$19) 2(x + 3)(x - 5) = 0$$

$$20) 3(n - 3)(3n - 5) = 0$$

$$21) 4(3a + 5)(a - 5) = 0$$

$$22) 4(k - 2)^2 = 0$$

$$23) 5(p - 2)^2 = 0$$

$$24) 2(5x - 2)(3x - 4) = 0$$

$$25) 3(n + 1)(n + 3) = 0$$

$$26) 5(m - 2)(m - 1) = 0$$

$$27) 2(r + 1)(r - 3) = 0$$

$$28) 4(4x - 3)(3x - 2) = 0$$

$$29) 2(n + 1)(n - 2) = 0$$

$$30) 4(b + 4)(b - 3) = 0$$

$$31) 4(r - 2)(r + 1) = 0$$

$$32) 4(x + 5)(2x + 1) = 0$$

$$33) 5(3n + 2)(n - 2) = 0$$

$$34) 4(a - 5)(a - 3) = 0$$

$$35) 2(v - 3)(v - 4) = 0$$

$$36) 4(x - 2)(3x - 2) = 0$$

$$37) 5(3x - 4)(2x - 5) = 0$$

$$38) 3(n - 2)(n - 4) = 0$$

$$39) 5(k - 4)(k - 5) = 0$$

$$40) 2(p - 4)(p - 3) = 0$$

$$41) 3(x + 4)(x - 3) = 0$$

$$42) 5(n + 2)(n - 5) = 0$$

$$43) 5(3m - 5)(2m - 5) = 0$$

$$44) 5(x - 5)(x - 4) = 0$$

$$45) 4(r + 4)(3r + 5) = 0$$

$$46) 5(5n + 4)(n - 3) = 0$$

$$47) 2(5v - 1)(v - 1) = 0$$

$$48) 3(x + 5)(2x + 3) = 0$$

$$49) 3(n + 2)^2 = 0$$

$$50) 2(4a - 3)(a + 3) = 0$$

$$51) 2(k-3)(k+4) = 0$$

$$52) 4(p+1)(2p+3) = 0$$

$$53) 3(x-1)(x+4) = 0$$

$$54) 3(m-1)^2 = 0$$

$$55) 3(r+1)(4r-3) = 0$$

$$56) 2(x+2)(x-3) = 0$$

$$57) 5(n+3)^2 = 0$$

$$58) 4(4b-5)(b-1) = 0$$

$$59) 5(r+4)(3r-1) = 0$$

$$60) 4(x-3)(x+4) = 0$$

$$61) 4(5n - 1)(n + 1) = 0$$

$$62) 3(a - 5)(a + 3) = 0$$

$$63) 5(v - 3)(v - 4) = 0$$

$$64) 5(x - 3)(3x - 4) = 0$$

$$65) 3(5x - 3)(x - 5) = 0$$

$$66) 3(4n - 3)(n - 3) = 0$$

$$67) 3(2k - 1)(k - 4) = 0$$

$$68) 4(2p - 1)(p - 5) = 0$$

$$69) 4(x - 5)(5x + 1) = 0$$

$$70) 3(n + 1)(n + 2) = 0$$

$$71) 2(m - 4)(m + 2) = 0$$

$$72) 5(r - 3)(3r + 4) = 0$$

$$73) 3(5n + 4)(n + 5) = 0$$

$$74) 5(3b + 4)(b + 2) = 0$$

$$75) 2(x - 5)(x + 1) = 0$$

$$76) 3(n + 4)(n + 1) = 0$$

$$77) 4(a - 4)(3a + 1) = 0$$

$$78) 5(k - 2)(k - 5) = 0$$

$$79) 4(p - 2)(p - 5) = 0$$

$$80) 2(x - 1)^2 = 0$$



$$81) 3(4n - 5)(n + 4) = 0$$

$$82) 3(m - 3)(2m + 3) = 0$$

$$83) 5(r - 3)(r - 2) = 0$$

$$84) 5(x + 2)(x - 3) = 0$$

$$85) 5(5n + 1)(n - 4) = 0$$

$$86) 2(5b - 3)(b - 3) = 0$$

$$87) 3(v + 3)(v - 1) = 0$$

$$88) 4(x - 4)(2x + 1) = 0$$

$$89) 4(n + 4)(4n - 5) = 0$$

$$90) 5(4a + 3)(a - 5) = 0$$

$$91) 5(v - 4)(v - 2) = 0$$

$$92) 3(4x + 1)(4x - 3) = 0$$

$$93) 2(n - 3)(n - 2) = 0$$

$$94) 5(2k + 5)(k + 3) = 0$$

$$95) 3(p - 1)(p - 3) = 0$$

$$96) 3(2x + 3)(x - 5) = 0$$

$$97) 3(n + 5)(5n + 2) = 0$$

$$98) 5(m + 1)(m - 3) = 0$$

$$99) 2(r + 5)(r - 1) = 0$$

$$100) 2(5x + 4)(x + 3) = 0$$

**Solve level 2 complexity equations:**

101)  $7b^2 + 84b + 252 = 0$

102)  $3n^2 - 9n - 12 = 0$

103)  $2v^2 - 24v + 64 = 0$

104)  $7x^2 + 91x + 280 = 0$

105)  $3n^2 + 36n + 105 = 0$

106)  $5a^2 - 45a + 40 = 0$

107)  $2k^2 + 4k - 16 = 0$

108)  $5p^2 - 55p + 120 = 0$

109)  $4n^2 - 12n - 160 = 0$

110)  $8x^2 - 56x + 96 = 0$

$$111) 4m^2 + 56m + 196 = 0$$

$$112) 4r^2 - 20r - 24 = 0$$

$$113) 7x^2 - 63x + 140 = 0$$

$$114) 3n^2 - 12n - 36 = 0$$

$$115) 7b^2 - 7b - 210 = 0$$

$$116) 2v^2 - 6v - 8 = 0$$

$$117) 6x^2 + 30x + 24 = 0$$

$$118) 8n^2 - 128n + 512 = 0$$

$$119) 2v^2 - 18v + 16 = 0$$

$$120) 6a^2 + 60a + 150 = 0$$

$$121) 6x^2 + 18x - 168 = 0$$

$$122) 8x^2 + 120x + 448 = 0$$

$$123) 5n^2 + 10n - 120 = 0$$

$$124) 7k^2 + 28k - 84 = 0$$

$$125) 4p^2 - 28p + 48 = 0$$

$$126) 5x^2 + 30x - 80 = 0$$

$$127) 4n^2 - 4n - 80 = 0$$

$$128) 4m^2 - 40m + 84 = 0$$

$$129) 3r^2 + 21r + 36 = 0$$

$$130) 7x^2 - 42x - 112 = 0$$

$$131) 2n^2 + 12n + 16 = 0$$

$$132) 6b^2 + 6b - 336 = 0$$

$$133) 3v^2 - 36v + 96 = 0$$

$$134) 6x^2 + 96x + 384 = 0$$

$$135) 2n^2 + 8n - 64 = 0$$

$$136) 8a^2 - 96a + 288 = 0$$

$$137) 2k^2 - 12k + 16 = 0$$

$$138) 8p^2 - 88p + 224 = 0$$

$$139) 8x^2 + 8x - 96 = 0$$

$$140) 4n^2 + 24n - 64 = 0$$

$$141) 7m^2 + 63m + 140 = 0$$

$$142) 4r^2 - 16r - 128 = 0$$

$$143) 7x^2 - 7x - 140 = 0$$

$$144) 3n^2 + 9n - 120 = 0$$

$$145) 6b^2 - 60b + 144 = 0$$

$$146) 3v^2 + 3v - 168 = 0$$

$$147) 6x^2 - 12x - 48 = 0$$

$$148) 4n^2 + 60n + 224 = 0$$

$$149) 4a^2 - 8a - 60 = 0$$

$$150) 2k^2 - 18k + 28 = 0$$

$$151) 5x^2 + 60x + 160 = 0$$

$$152) 5n^2 + 50n + 120 = 0$$

$$153) 2x^2 - 14x + 20 = 0$$

$$154) 8k^2 + 112k + 384 = 0$$

$$155) 4p^2 + 4p - 48 = 0$$

$$156) 8x^2 + 32x - 256 = 0$$

$$157) 3n^2 - 24n + 48 = 0$$

$$158) 7m^2 + 84m + 224 = 0$$

$$159) 3n^2 - 9n - 30 = 0$$

$$160) 6x^2 - 6x - 72 = 0$$



$$161) 5b^2 - 40b + 60 = 0$$

$$162) 2v^2 - 6v - 56 = 0$$

$$163) 5x^2 - 45x + 40 = 0$$

$$164) 2x^2 + 24x + 64 = 0$$

$$165) 8k^2 + 24k - 32 = 0$$

$$166) 2n^2 + 26n + 80 = 0$$

$$167) 2m^2 + 2m - 60 = 0$$

$$168) 2r^2 + 2r - 112 = 0$$

$$169) 7x^2 + 56x + 112 = 0$$

$$170) 8n^2 + 16n - 280 = 0$$

$$171) 7b^2 - 14b - 168 = 0$$

$$172) 2v^2 + 4v - 96 = 0$$

$$173) 6x^2 + 36x + 48 = 0$$

$$174) 2n^2 + 18n + 16 = 0$$

$$175) 5a^2 - 15a - 20 = 0$$

$$176) 5k^2 + 25k - 120 = 0$$

$$177) 5x^2 + 15x - 200 = 0$$

$$178) 5x^2 - 40x + 80 = 0$$

$$179) 4n^2 + 8n - 140 = 0$$

$$180) 3k^2 + 6k - 24 = 0$$

$$181) 3p^2 + 3p - 36 = 0$$

$$182) 7x^2 - 28x + 21 = 0$$

$$183) 5n^2 + 10n - 15 = 0$$

$$184) 7m^2 + 21m - 280 = 0$$

$$185) 3r^2 + 24r + 48 = 0$$

$$186) 6x^2 + 66x + 144 = 0$$

$$187) 5b^2 + 10b - 240 = 0$$

$$188) 2v^2 - 24v + 70 = 0$$

$$189) 7x^2 - 42x - 49 = 0$$

$$190) 8x^2 - 104x + 320 = 0$$

$$191) 4a^2 + 16a - 20 = 0$$

$$192) 4p^2 - 8p + 4 = 0$$

$$193) 8x^2 + 16x - 64 = 0$$

$$194) 4n^2 + 56n + 192 = 0$$

$$195) 7m^2 + 70m + 168 = 0$$

$$196) 3r^2 + 39r + 120 = 0$$

$$197) 7x^2 - 7x - 140 = 0$$

$$198) 6b^2 - 60b + 150 = 0$$

$$199) 2v^2 - 10v + 12 = 0$$

$$200) 6x^2 - 18x - 60 = 0$$

$$201) 2n^2 - 26n + 82 = 10$$

$$202) 3k^2 - 24k + 54 = 9$$

$$203) 2a^2 + 30a + 118 = 10$$

$$204) 4x^2 - 52x + 177 = 9$$

$$205) 5x^2 - 35x - 141 = 9$$

$$206) 6n^2 - 54n + 56 = 8$$

$$207) 7m^2 - 7m - 76 = 8$$

$$208) 5p^2 - 45p + 44 = 4$$

$$209) 8x^2 + 96x + 169 = 9$$

$$210) 2n^2 - 8n = -8$$

$$211) 10m^2 + 40m - 603 = -3$$

$$212) 2r^2 + 22r + 66 = 10$$

$$213) 2x^2 + 10x + 14 = 6$$

$$214) 5b^2 + 50b + 118 = -2$$

$$215) 4n^2 + 16n - 86 = -2$$

$$216) 5v^2 - 25v - 72 = -2$$

$$217) 7x^2 + 21x - 31 = -3$$

$$218) 7x^2 + 7x - 382 = 10$$

$$219) 8a^2 - 40a - 390 = 10$$

$$220) 10k^2 + 20k + 20 = 10$$

$$221) 10p^2 - 170p + 725 = 5$$

$$222) 9x^2 + 27x - 256 = -4$$

$$223) 3n^2 + 3n - 9 = 9$$

$$224) 6m^2 + 12m - 205 = 5$$

$$225) 4r^2 + 24r - 100 = 8$$

$$226) 6x^2 + 84x + 294 = 6$$

$$227) 7n^2 + 49n + 80 = 10$$

$$228) 7b^2 - 112b + 413 = -7$$

$$229) 9v^2 + 108v + 286 = -2$$

$$230) 9x^2 - 18x - 214 = 2$$

$$231) 10n^2 - 160n + 637 = 7$$

$$232) 10a^2 + 110a + 98 = -2$$

$$233) 3k^2 - 9k - 164 = -2$$

$$234) 4x^2 + 16x - 190 = -10$$

$$235) 4x^2 - 44x + 62 = -10$$

$$236) 6n^2 + 108n + 496 = 10$$

$$237) 6m^2 - 30m + 46 = 10$$

$$238) 7p^2 - 84p + 255 = 10$$

$$239) 9x^2 - 36x - 530 = 10$$

$$240) 9n^2 - 54n + 54 = 9$$



$$241) 10m^2 + 10m - 191 = 9$$

$$242) 2r^2 - 10r - 39 = 9$$

$$243) 3x^2 - 21x - 14 = 10$$

$$244) 10n^2 - 90n + 183 = 3$$

$$245) 5b^2 - 70b + 238 = -2$$

$$246) 6v^2 + 84v + 243 = 3$$

$$247) 8x^2 - 24x + 21 = 5$$

$$248) 8x^2 + 40x - 285 = 3$$

$$249) 8a^2 + 104a + 344 = 8$$

$$250) 9k^2 - 18k - 81 = -9$$

$$251) 9p^2 + 45p - 64 = -10$$

$$252) 2x^2 + 8x - 74 = -10$$

$$253) 3n^2 - 6n - 115 = -10$$

$$254) 3m^2 + 12m + 19 = 10$$

$$255) 5r^2 + 15r - 340 = 10$$

$$256) 5x^2 + 50x + 115 = 10$$

$$257) 10n^2 - 60n - 276 = -6$$

$$258) 7b^2 - 126b + 569 = 9$$

$$259) 7v^2 - 7v - 628 = 2$$

$$260) 9x^2 + 135x + 457 = 7$$

$$261) 10n^2 + 20n - 490 = -10$$

$$262) 2a^2 - 26a + 55 = -5$$

$$263) 2k^2 + 30k + 118 = 6$$

$$264) 7x^2 - 28x - 231 = -7$$

$$265) 4x^2 - 56x + 200 = 8$$

$$266) 5n^2 + 70n + 192 = -8$$

$$267) 7m^2 - 63m + 94 = -4$$

$$268) 7p^2 - 98p + 306 = -9$$

$$269) 8x^2 - 64x - 82 = -10$$

$$270) 2n^2 + 4n - 32 = -2$$

$$271) 10b^2 - 20b - 40 = -10$$

$$272) 10r^2 - 90r + 130 = -10$$

$$273) 2x^2 + 22x + 58 = 10$$

$$274) 4n^2 - 12n + 18 = 10$$

$$275) 4b^2 + 12b - 150 = 10$$

$$276) 5v^2 + 50v + 127 = 2$$

$$277) 6x^2 - 24x - 39 = -9$$

$$278) 7x^2 + 21x - 62 = 8$$

$$279) 7a^2 + 63a + 89 = -9$$

$$280) 9k^2 - 54k - 247 = -4$$

$$281) 4p^2 + 4p - 2 = 6$$

$$282) 5x^2 + 5x - 442 = 8$$

$$283) 3n^2 + 45n + 171 = 9$$

$$284) 3m^2 + 3m - 13 = -7$$

$$285) 2r^2 - 10r + 16 = 4$$

$$286) 5x^2 + 30x - 89 = -9$$

$$287) 7n^2 + 21n - 121 = 5$$

$$288) 7b^2 + 49b + 32 = -10$$

$$289) 7v^2 + 35v - 360 = -10$$

$$290) 9x^2 + 117x + 368 = -10$$

$$291) 9n^2 + 54n + 71 = -10$$

$$292) 10a^2 - 170a + 730 = 10$$

$$293) 3k^2 + 36k + 83 = 2$$

$$294) 3x^2 - 9x - 118 = 2$$

$$295) 4x^2 + 16x - 248 = -8$$

$$296) 4n^2 - 20n - 204 = -4$$

$$297) 6m^2 + 102m + 423 = 3$$

$$298) 6p^2 + 18p - 163 = 5$$

$$299) 8x^2 - 96x + 261 = 5$$

$$300) 9n^2 + 153n + 636 = 6$$

$$301) 9b^2 + 72 = 54b$$

$$302) 2x^2 - 10x = 72$$

$$303) 2r^2 + 84 = 26r$$

$$304) 6b^2 - 324 = 18b$$

$$305) 9n^2 - 108n = -243$$

$$306) 5v^2 - 35 = 30v$$

$$307) 6x^2 - 48x = 120$$

$$308) 2x^2 + 4x = 6$$

$$309) 8a^2 - 120a = -400$$

$$310) 8k^2 = -320 - 104k$$

$$311) 9p^2 - 18p = 27$$

$$312) 10x^2 - 240 = -50x$$

$$313) 2n^2 + 24n = -70$$

$$314) 4r^2 - 8r = 96$$

$$315) 3m^2 - 54 = 9m$$

$$316) 5x^2 + 15x = 270$$

$$317) 5n^2 - 15n = 270$$

$$318) 7b^2 + 14 = -21b$$

$$319) 7v^2 - 133v = -630$$

$$320) 8x^2 = -64 - 72x$$



$$321) 10n^2 - 80 = -20n$$

$$322) 10a^2 - 630 = -20a$$

$$323) 2k^2 = -16k + 40$$

$$324) 4x^2 + 4x = 120$$

$$325) 2x^2 = -28x - 96$$

$$326) 4n^2 + 180 = 56n$$

$$327) 5m^2 + 70m = -225$$

$$328) 8p^2 = 160 - 64p$$

$$329) 7x^2 - 105x = -392$$

$$330) 9b^2 = -81 + 90b$$

$$331) 8n^2 = 64n + 160$$

$$332) 10r^2 + 60r = 400$$

$$333) 2x^2 - 18x = -16$$

$$334) 3n^2 = -27 - 30n$$

$$335) 4a^2 - 12a = -8$$

$$336) 4v^2 = -96 + 40v$$

$$337) 6x^2 + 144 = -60x$$

$$338) 7x^2 = -378 - 105x$$

$$339) 7a^2 + 14a = 168$$

$$340) 8k^2 + 144 = -72k$$

$$341) 9p^2 - 45p = 126$$

$$342) 10x^2 = -20x + 30$$

$$343) 3n^2 = -18n + 48$$

$$344) 3m^2 = 18m + 120$$

$$345) 4x^2 + 400 = -80x$$

$$346) 6n^2 + 90n = -336$$

$$347) 8b^2 - 48 = 8b$$

$$348) 2v^2 = -24v - 64$$

$$349) 8x^2 + 40x = 288$$

$$350) 9n^2 - 9n = 270$$

$$351) 9a^2 + 72 = -54a$$

$$352) 2k^2 = -140 + 34k$$

$$353) 3x^2 + 96 = -36x$$

$$354) 3x^2 = -12 - 15x$$

$$355) 5n^2 = -400 + 90n$$

$$356) 5m^2 + 55m = -50$$

$$357) 6p^2 - 24p = 360$$

$$358) 6x^2 = -18x + 240$$

$$359) 8n^2 + 144 = 88n$$

$$360) 9b^2 + 144b = -576$$

$$361) 9r^2 - 135 = -18r$$

$$362) 2x^2 = 24x - 70$$

$$363) 2n^2 - 10n = 100$$

$$364) 3a^2 + 18 = 21a$$

$$365) 4v^2 = -180 + 56v$$

$$366) 5x^2 - 30x = 80$$

$$367) 6x^2 - 48x = 54$$

$$368) 7a^2 = 7a + 14$$

$$369) 8k^2 = 56k - 48$$

$$370) 8p^2 + 96p = -216$$

$$371) 5x^2 + 35 = -40x$$

$$372) 10n^2 = 360 - 50n$$

$$373) 2m^2 + 72 = -24m$$

$$374) 4r^2 = 40 + 12r$$

$$375) 4x^2 - 48 = -16x$$

$$376) 5n^2 = -120 - 55n$$

$$377) 5b^2 - 160 = 20b$$

$$378) 7v^2 = -21 - 28v$$

$$379) 8x^2 - 640 = -16x$$

$$380) 8n^2 = -136n - 560$$

$$381) 10a^2 = -20a + 30$$

$$382) 10k^2 = -10k + 900$$

$$383) 2p^2 = 18 - 16p$$

$$384) 3x^2 = -3x + 60$$

$$385) 4n^2 = -4n + 168$$

$$386) 5m^2 = 70m - 200$$

$$387) 6p^2 = -252 - 78p$$

$$388) 7n^2 - 105n = -392$$

$$389) 9x^2 = -18 - 27x$$

$$390) 9b^2 + 270 = -117b$$

$$391) 9r^2 = 18 + 9r$$

$$392) 10x^2 = -600 + 160x$$

$$393) 5n^2 + 450 = 95n$$

$$394) 7a^2 = -28a + 84$$

$$395) 4v^2 = 96 - 20v$$

$$396) 4x^2 + 84 = 40x$$

$$397) 6x^2 + 60x = -96$$

$$398) 6n^2 = 24n - 18$$

$$399) 7k^2 + 210 = 77k$$

$$400) 9p^2 = -180 - 81p$$



**Solve level 3 complexity equations:**

401)  $x^2 + 10x + 21 = 0$

402)  $n^2 + 3n + 2 = 0$

403)  $r^2 + 16r + 55 = 0$

404)  $m^2 - 3m - 70 = 0$

405)  $x^2 + 10x + 24 = 0$

406)  $n^2 + 3n - 54 = 0$

407)  $v^2 + 16v + 60 = 0$

408)  $x^2 + 16x + 55 = 0$

409)  $n^2 + 4n - 60 = 0$

410)  $a^2 - 3a - 88 = 0$

$$411) k^2 + 16k + 63 = 0$$

$$412) p^2 + 17p + 60 = 0$$

$$413) x^2 + 3x - 70 = 0$$

$$414) n^2 - 3n - 108 = 0$$

$$415) m^2 - 3m - 88 = 0$$

$$416) p^2 - 8p - 48 = 0$$

$$417) x^2 + 3x - 88 = 0$$

$$418) n^2 + 3n - 108 = 0$$

$$419) b^2 - 2b - 80 = 0$$

$$420) x^2 - 15x + 54 = 0$$

$$421) r^2 - 9r - 36 = 0$$

$$422) n^2 + 4n - 96 = 0$$

$$423) a^2 - 3a - 70 = 0$$

$$424) v^2 - 9v + 20 = 0$$

$$425) n^2 + 4n - 12 = 0$$

$$426) x^2 + 4x - 77 = 0$$

$$427) p^2 - 15p + 50 = 0$$

$$428) x^2 + 6x - 16 = 0$$

$$429) n^2 + 4n - 5 = 0$$

$$430) m^2 - 9m + 18 = 0$$

$$431) r^2 - 9r - 22 = 0$$

$$432) x^2 + 10x + 9 = 0$$

$$433) b^2 - 2b - 35 = 0$$

$$434) v^2 - 9v - 36 = 0$$

$$435) n^2 + 4n - 21 = 0$$

$$436) k^2 - 8k - 48 = 0$$

$$437) a^2 - 3a - 40 = 0$$

$$438) p^2 + 17p + 72 = 0$$

$$439) x^2 + 4x - 32 = 0$$

$$440) n^2 - 2n - 48 = 0$$

$$441) m^2 + 23m + 132 = 0$$

$$442) r^2 + 17r + 70 = 0$$

$$443) b^2 + 23b + 132 = 0$$

$$444) n^2 - 20n + 99 = 0$$

$$445) r^2 + 16r + 60 = 0$$

$$446) x^2 - 14x + 45 = 0$$

$$447) n^2 - 21n + 110 = 0$$

$$448) a^2 - 2a - 120 = 0$$

$$449) v^2 - 8v + 7 = 0$$

$$450) x^2 - 15x + 54 = 0$$

$$451) x^2 - 21x + 110 = 0$$

$$452) n^2 + 5n - 50 = 0$$

$$453) k^2 - 8k + 12 = 0$$

$$454) p^2 - 15p + 56 = 0$$

$$455) x^2 - 14x + 33 = 0$$

$$456) n^2 + 5n - 36 = 0$$

$$457) m^2 - 9m + 18 = 0$$

$$458) r^2 - 18r + 81 = 0$$

$$459) x^2 - 14x + 24 = 0$$

$$460) n^2 + 4n - 32 = 0$$

$$461) b^2 - 2b - 8 = 0$$

$$462) v^2 + 19v + 84 = 0$$

$$463) x^2 + 11x - 12 = 0$$

$$464) n^2 - 3n - 28 = 0$$

$$465) a^2 - a - 12 = 0$$

$$466) k^2 - 8k - 9 = 0$$

$$467) p^2 + 17p + 66 = 0$$

$$468) x^2 + 13x + 40 = 0$$

$$469) n^2 - 2n - 15 = 0$$

$$470) m^2 - 8m - 20 = 0$$

$$471) x^2 + 4x - 5 = 0$$

$$472) r^2 + 18r + 77 = 0$$

$$473) n^2 - 2n - 24 = 0$$

$$474) b^2 - b - 90 = 0$$

$$475) x^2 + 4x - 12 = 0$$

$$476) r^2 + 18r + 80 = 0$$

$$477) n^2 + 4n - 77 = 0$$

$$478) a^2 - a - 110 = 0$$

$$479) v^2 + 10v + 16 = 0$$

$$480) x^2 - 14x + 33 = 0$$



$$481) x^2 + 5x - 84 = 0$$

$$482) n^2 - 2n - 120 = 0$$

$$483) k^2 - 8k - 9 = 0$$

$$484) x^2 - 20x + 96 = 0$$

$$485) n^2 + 5n - 84 = 0$$

$$486) r^2 - 14r + 40 = 0$$

$$487) x^2 - 14x + 45 = 0$$

$$488) n^2 + 6n - 72 = 0$$

$$489) b^2 - 16b + 64 = 0$$

$$490) v^2 - 8v + 15 = 0$$

$$491) x^2 - 13x + 36 = 0$$

$$492) n^2 + 5n - 66 = 0$$

$$493) a^2 + 14a + 48 = 0$$

$$494) k^2 - 8k + 12 = 0$$

$$495) p^2 - 13p + 30 = 0$$

$$496) x^2 + 5x + 6 = 0$$

$$497) n^2 + 6n + 5 = 0$$

$$498) m^2 - 7m + 6 = 0$$

$$499) r^2 - 7r - 44 = 0$$

$$500) x^2 + 5x + 6 = 0$$

$$501) b^2 - b - 32 = 10$$

$$502) n^2 - n - 7 = -5$$

$$503) x^2 + 5x + 2 = -4$$

$$504) v^2 - 7v - 54 = 6$$

$$505) a^2 - a - 49 = 7$$

$$506) n^2 + 6n - 17 = 10$$

$$507) x^2 + 12x + 22 = 11$$

$$508) x^2 + 5x - 28 = 8$$

$$509) n^2 - n - 75 = -3$$

$$510) k^2 - 7k - 48 = 12$$

$$511) n^2 - 19n + 78 = -12$$

$$512) x^2 + 5x - 52 = -2$$

$$513) r^2 + 11r - 15 = -3$$

$$514) m^2 - 7m - 42 = 2$$

$$515) n^2 - 19n + 93 = 3$$

$$516) x^2 - 13x + 28 = -12$$

$$517) b^2 - 8b - 24 = 9$$

$$518) v^2 - 6v - 6 = -11$$

$$519) x^2 - 13x + 46 = 4$$

$$520) n^2 - 20n + 89 = -10$$

$$521) a^2 - 12a + 22 = 2$$

$$522) k^2 - 7k + 14 = 4$$

$$523) p^2 - 13p + 37 = -5$$

$$524) x^2 + 5x - 15 = -9$$

$$525) n^2 + 2n - 23 = -8$$

$$526) m^2 - 7m + 14 = 2$$

$$527) x^2 + x - 19 = 11$$

$$528) r^2 - 14r + 39 = -9$$

$$529) n^2 - n - 7 = -5$$

$$530) b^2 - 7b + 4 = -8$$

$$531) v^2 - 6v - 9 = 7$$

$$532) x^2 - 13x + 28 = -8$$

$$533) n^2 - 8n + 11 = 4$$

$$534) a^2 - 2a - 73 = -10$$

$$535) v^2 - 6v - 30 = -3$$

$$536) x^2 + 5x - 3 = -7$$

$$537) x^2 + 14x + 56 = 8$$

$$538) n^2 - 11n + 30 = 12$$

$$539) p^2 + 13p + 45 = 9$$

$$540) k^2 + 11k + 18 = -6$$

$$541) x^2 + 6x - 9 = -2$$

$$542) n^2 - n - 35 = -5$$

$$543) m^2 + 18m + 86 = 9$$

$$544) r^2 + 12r + 29 = 2$$

$$545) x^2 + 6x - 27 = -11$$

$$546) n^2 - 19n + 94 = 10$$

$$547) v^2 + 12v + 9 = -11$$

$$548) x^2 - 13x + 41 = 11$$

$$549) x^2 - 18x + 72 = -5$$

$$550) a^2 + 18a + 62 = -10$$

$$551) k^2 - 7k + 4 = 12$$

$$552) p^2 - 12p + 19 = -8$$

$$553) x^2 - 19x + 79 = -9$$

$$554) n^2 + 4n - 93 = 3$$

$$555) m^2 - 6m - 5 = 2$$

$$556) r^2 - 12r + 23 = -9$$

$$557) x^2 + 6x - 39 = -12$$

$$558) n^2 - n - 17 = 3$$

$$559) v^2 - 6v - 6 = -11$$

$$560) x^2 + 6x - 13 = 3$$



$$561) n^2 - 9n + 17 = 3$$

$$562) a^2 + 19a + 93 = 5$$

$$563) x^2 + 7x + 20 = 8$$

$$564) n^2 + 16n + 46 = -9$$

$$565) p^2 + 13p + 51 = 9$$

$$566) x^2 + 6x + 14 = 6$$

$$567) n^2 + n - 11 = -5$$

$$568) r^2 + 12r + 42 = 6$$

$$569) x^2 + 6x + 1 = -4$$

$$570) n^2 + 7n - 20 = 10$$

$$571) b^2 + 19b + 97 = 7$$

$$572) v^2 + 12v + 32 = -3$$

$$573) x^2 + 13x + 23 = 11$$

$$574) x^2 + 7x - 36 = 8$$

$$575) a^2 + 18a + 78 = -3$$

$$576) k^2 - 5k - 38 = 12$$

$$577) p^2 - 11p - 7 = 5$$

$$578) x^2 + 6x - 57 = -2$$

$$579) n^2 + n - 84 = -12$$

$$580) m^2 - 6m - 38 = 2$$

$$581) r^2 - 12r + 23 = 12$$

$$582) x^2 - 18x + 60 = -12$$

$$583) n^2 + n - 53 = 3$$

$$584) b^2 - 6b - 35 = -8$$

$$585) x^2 + 7x - 56 = 4$$

$$586) n^2 + 5n - 48 = -12$$

$$587) a^2 - 6a - 26 = -10$$

$$588) k^2 - 5k + 10 = 4$$

$$589) x^2 + 6x - 46 = 9$$

$$590) x^2 - 17x + 74 = 4$$

$$591) n^2 + n + 3 = 5$$

$$592) k^2 - 5k + 1 = -5$$

$$593) p^2 + 6p - 49 = -9$$

$$594) x^2 + 7x + 12 = 6$$

$$595) m^2 - 13m + 14 = -8$$

$$596) r^2 + 14r + 46 = 6$$

$$597) x^2 + 7x + 6 = -4$$

$$598) n^2 - 6n + 1 = 8$$

$$599) b^2 - 5b - 59 = 7$$

$$600) v^2 + 13v + 33 = -3$$

$$601) x^2 = -7x + 8$$

$$602) x^2 + 7x = -12$$

$$603) a^2 - 72 = 6a$$

$$604) k^2 + 13k = -40$$

$$605) p^2 = -13p - 30$$

$$606) x^2 = -8x + 9$$

$$607) n^2 + 19n = -84$$

$$608) r^2 + 14r = -33$$

$$609) m^2 = -84 - 19m$$

$$610) x^2 + 7x = 18$$

$$611) n^2 - 110 = -n$$

$$612) b^2 = 5b + 84$$

$$613) v^2 + 24 = -14v$$

$$614) x^2 - 18x = -80$$

$$615) a^2 - 5a = 66$$

$$616) k^2 - 6 = 5k$$

$$617) x^2 - 18x = -77$$

$$618) x^2 = -x + 90$$

$$619) n^2 = 20 - n$$

$$620) m^2 = 3m + 10$$

$$621) x^2 = 9 - 8x$$

$$622) n^2 + n = 12$$

$$623) m^2 + 40 = 13m$$

$$624) r^2 = 12 + 11r$$

$$625) x^2 + 7x = 8$$

$$626) n^2 + 2n = 8$$

$$627) b^2 = 5b + 24$$

$$628) v^2 = -12 - 13v$$

$$629) x^2 = -30 + 11x$$

$$630) x^2 + 15 = -8x$$

$$631) a^2 - 36 = 5a$$

$$632) k^2 + 14k = -24$$

$$633) p^2 + 49 = -14p$$

$$634) x^2 + 8x = -12$$

$$635) n^2 - 6n = 40$$

$$636) m^2 + 110 = -21m$$

$$637) r^2 + 14r = -48$$

$$638) x^2 + 6 = -7x$$

$$639) n^2 + 2n = 120$$

$$640) b^2 + 100 = -20b$$



$$641) v^2 = -14v - 45$$

$$642) x^2 = 42 - x$$

$$643) n^2 + 132 = 23n$$

$$644) a^2 + 99 = -20a$$

$$645) x^2 + 70 = 17x$$

$$646) x^2 = 24x - 144$$

$$647) n^2 + 21n = -108$$

$$648) m^2 - 4m = 32$$

$$649) p^2 - 18p = -80$$

$$650) x^2 = -x + 132$$

$$651) n^2 = 48 - 2n$$

$$652) m^2 = 21 + 4m$$

$$653) r^2 + 81 = 18r$$

$$654) x^2 + 8x = 48$$

$$655) n^2 = 35 - 2n$$

$$656) b^2 - 12b = -35$$

$$657) v^2 = 10v - 9$$

$$658) x^2 - 33 = -8x$$

$$659) x^2 = -x + 30$$

$$660) a^2 = 4a + 5$$

$$661) k^2 = -10 + 11k$$

$$662) p^2 = -8p + 20$$

$$663) x^2 + 9x = -18$$

$$664) n^2 = 5n + 6$$

$$665) m^2 - 72 = -m$$

$$666) r^2 = -45 - 14r$$

$$667) x^2 = -9x - 20$$

$$668) n^2 - 5n = 14$$

$$669) b^2 - 4b = 96$$

$$670) v^2 + 15v = -54$$

$$671) x^2 + 16 = -8x$$

$$672) n^2 - 80 = -2n$$

$$673) k^2 = -56 - 15k$$

$$674) x^2 - 48 = -8x$$

$$675) n^2 + 108 = -21n$$

$$676) m^2 - 4m = 77$$

$$677) p^2 - 16p = -48$$

$$678) x^2 - 99 = -2x$$

$$679) n^2 = 99 - 2n$$

$$680) b^2 - 3b = 70$$

$$681) r^2 + 60 = 17r$$

$$682) x^2 = -60 + 16x$$

$$683) n^2 = 80 - 2n$$

$$684) b^2 - 60 = 4b$$

$$685) v^2 + 24 = 10v$$

$$686) x^2 + 66 = 17x$$

$$687) x^2 = -3x + 70$$

$$688) a^2 = 4a - 4$$

$$689) k^2 - 11k = -28$$

$$690) p^2 = -55 + 16p$$

$$691) x^2 - x = 132$$

$$692) n^2 - 4n = -3$$

$$693) m^2 + 21 = 10m$$

$$694) r^2 - 24 = 10r$$

$$695) x^2 + 8 = -9x$$

$$696) b^2 = 40 + 3b$$

$$697) v^2 + 15v = -36$$

$$698) x^2 + 14 = -9x$$

$$699) n^2 - 28 = -3n$$

$$700) a^2 - 4a = 45$$

**Solve level 4 complexity equations:**

701)  $6k^2 + 10k + 30 = 5k^2 + 9$

702)  $6n^2 + 4n - 34 = 5n^2 + 5n - 4$

703)  $p^2 + 11p = -18$

704)  $12x^2 + 5x = 11x^2 + 14$

705)  $n^2 - 2n = 35$

706)  $-7m^2 + 10m + 56 = -7m - 10 - 8m^2$

707)  $x^2 - 6x - 24 = -11x$

708)  $n^2 - 2n = 120$

709)  $v^2 + 5 = -5 - 11v$

710)  $x^2 = -40 + 14x$

$$711) n^2 - 99 = 2n$$

$$712) -6a^2 + 60 = -7a^2 - 17a$$

$$713) k^2 + k - 66 = 6$$

$$714) p^2 - 14p + 36 = -9$$

$$715) -9n^2 - 4n - 11 = 9 - 10n^2 - 3n$$

$$716) m^2 - 8m + 14 = 7$$

$$717) p^2 - 15p + 40 = -2p$$

$$718) -6x^2 - 3x = 80 - 7x^2 - x$$

$$719) n^2 + 5n - 15 = 7n$$

$$720) -b^2 - 7b - 1 = -7 - 2b^2$$



$$721) r^2 + 3r - 96 = -r$$

$$722) x^2 - 3 = 11 - 5x$$

$$723) n^2 - n = 12$$

$$724) a^2 + 12 = 8a$$

$$725) -3v^2 + 7v = -4v^2 - 10$$

$$726) x^2 - 7x - 12 = -11x$$

$$727) x^2 - x - 4 = 2$$

$$728) -8n^2 - n - 4 = -9n^2 + 2$$

$$729) k^2 + k - 11 = 8k - 3$$

$$730) -9p^2 - 6 = -5p - 10p^2$$

$$731) x^2 + 4x = -x - 4$$

$$732) 7n^2 + 2n - 12 = 6n^2 + 3n$$

$$733) m^2 + 10 = -11m$$

$$734) r^2 + 30 = -11r$$

$$735) b^2 + 18b = -81$$

$$736) n^2 - 8n - 36 = -3$$

$$737) v^2 + 11v + 38 = 10$$

$$738) 10x^2 + 14x + 56 = 9x^2 + 11$$

$$739) n^2 - 8n - 124 = -7n + 8$$

$$740) a^2 + 17a + 67 = -5$$

$$741) 3k^2 + 8k + 24 = 2k^2 - 3k$$

$$742) p^2 - 14p + 4 = -p - 8$$

$$743) x^2 + 23x + 140 = 8$$

$$744) n^2 + 70 = -17n$$

$$745) m^2 - 18m - 30 = -11m$$

$$746) -10r^2 - 23r + 22 = -10r - 11r^2$$

$$747) x^2 + 11x + 141 = 9 - 12x$$

$$748) n^2 - 77 = -4n$$

$$749) b^2 + 2b - 29 = 9b - 11$$

$$750) r^2 = -33 + 14r$$

$$751) x^2 - 55 = -6x$$

$$752) -4n^2 - n - 39 = -5n^2 + 3$$

$$753) a^2 - 8 = 7a$$

$$754) -9v^2 - 14v + 30 = -10v^2 - v$$

$$755) -5x^2 + 5x - 50 = -6x^2$$

$$756) x^2 - x - 36 = -6$$

$$757) 12n^2 - 12n - 30 = 11n^2 - 8n - 9$$

$$758) 11k^2 + 22 = 10k^2 + 13k$$

$$759) p^2 + 9p - 36 = 4p$$

$$760) x^2 + 7x = 2x - 4$$

$$761) n^2 - 2n - 15 = 9$$

$$762) -11m^2 = -24 + 14m - 12m^2$$

$$763) 11r^2 + 12r + 32 = 10r^2$$

$$764) x^2 + 6x + 9 = 1$$

$$765) 6n^2 - 25n + 101 = -5n + 1 + 5n^2$$

$$766) b^2 + 72 = -18b$$

$$767) x^2 + 6x + 10 = 1$$

$$768) n^2 + n - 72 = 2n$$

$$769) k^2 + 20k = -35 + 8k$$

$$770) p^2 + 23p + 20 = 11p$$

$$771) x^2 - 5x = -4$$

$$772) 7n^2 + 18n + 77 = 6n^2$$

$$773) -4m^2 + 72 = -5m^2 - 18m$$

$$774) -6r^2 + 7r + 11 = -5r - 7r^2$$

$$775) x^2 + 6x - 90 = 7x$$

$$776) n^2 - 56 = -n$$

$$777) b^2 - 7b - 66 = -6$$

$$778) 4r^2 + 12 = -13r + 3r^2$$

$$779) -9x^2 - x - 98 = -10x^2 + 12$$

$$780) n^2 - 90 = n$$

$$781) a^2 - 6a - 44 = 11$$

$$782) v^2 - 84 = -5v$$

$$783) -10x^2 - 13x + 83 = -1 - 11x^2 + 6x$$

$$784) x^2 - 16x + 36 = -12$$

$$785) n^2 - 14n - 44 = -7n$$

$$786) k^2 = -40 + 13k$$

$$787) -8n^2 + 12n + 20 = -9n^2$$

$$788) -2m^2 - 14m + 53 = 8 - 3m^2$$

$$789) r^2 + 11r = 5r + 72$$

$$790) -3x^2 + 16x - 7 = -4x^2 + 10x$$

$$791) 11n^2 + 2n - 120 = 10n^2$$

$$792) b^2 - 13b = -36$$

$$793) -10v^2 + 12v = -11v^2 - 11$$

$$794) x^2 + 8x - 37 = 11$$

$$795) -6n^2 - 7n + 20 = 10 - 7n^2$$

$$796) a^2 + 2a - 40 = 8a$$

$$797) p^2 + 22p + 14 = 12p - 10$$

$$798) x^2 - 15x - 18 = -12x$$

$$799) 5n^2 - 7n - 44 = 4n^2$$

$$800) m^2 + 24m + 30 = 11m$$



$$801) 49r^2 - 595r + 84 = 0$$

$$802) 13n^2 - 9n - 4 = 0$$

$$803) 39x^2 - 145x - 104 = 0$$

$$804) 13b^2 - 118b + 9 = 0$$

$$805) 6v^2 - 31v - 77 = 0$$

$$806) 25x^2 - 15x - 130 = 0$$

$$807) 10n^2 - 36n - 144 = 0$$

$$808) 143a^2 + 2093a + 1274 = 0$$

$$809) 13v^2 - 175v + 78 = 0$$

$$810) 126x^2 - 909x + 189 = 0$$

$$811) 39x^2 + 132x + 45 = 0$$

$$812) 22n^2 - 19n - 21 = 0$$

$$813) 35k^2 + 16k - 12 = 0$$

$$814) 13p^2 - 126p - 40 = 0$$

$$815) 13x^2 - 42x - 40 = 0$$

$$816) 24n^2 + 152n - 320 = 0$$

$$817) 108m^2 - 1035m + 567 = 0$$

$$818) 5r^2 + 77r + 156 = 0$$

$$819) 99x^2 + 369x + 216 = 0$$

$$820) 15n^2 - 62n + 56 = 0$$

$$821) 11b^2 - 122b + 11 = 0$$

$$822) 11v^2 - 71v - 42 = 0$$

$$823) 7x^2 - 27x + 26 = 0$$

$$824) 15n^2 - 53n + 44 = 0$$

$$825) 5a^2 + 4a - 9 = 0$$

$$826) 117k^2 + 1296k + 99 = 0$$

$$827) 121p^2 - 814p + 528 = 0$$

$$828) 5x^2 + 43x - 132 = 0$$

$$829) 13n^2 - 113n + 72 = 0$$

$$830) 11m^2 - 58m - 48 = 0$$

$$831) 11r^2 + 157r + 42 = 0$$

$$832) 4x^2 - 7x - 15 = 0$$

$$833) 12n^2 + 7n - 5 = 0$$

$$834) 35b^2 - 18b - 72 = 0$$

$$835) 7v^2 + 61v + 84 = 0$$

$$836) 3x^2 - 37x - 26 = 0$$

$$837) 13n^2 - 23n + 10 = 0$$

$$838) 24a^2 + 200a - 400 = 0$$

$$839) 4v^2 + 51v + 36 = 0$$

$$840) 15x^2 - 66x - 273 = 0$$

$$841) 11n^2 + 59n + 20 = 0$$

$$842) 198x^2 + 1158x + 1092 = 0$$

$$843) 13k^2 + 152k + 99 = 0$$

$$844) 3p^2 + 16p - 140 = 0$$

$$845) 65x^2 + 364x - 1248 = 0$$

$$846) 9n^2 + 12n - 5 = 0$$

$$847) 10m^2 + 9m - 22 = 0$$

$$848) 13r^2 + 118r + 9 = 0$$

$$849) 3x^2 - x - 4 = 0$$

$$850) 88n^2 - 385n + 132 = 0$$

$$851) 132b^2 - 1236b - 840 = 0$$

$$852) 110v^2 + 530v + 360 = 0$$

$$853) 88x^2 - 408x - 160 = 0$$

$$854) 55x^2 - 120x + 65 = 0$$

$$855) 2a^2 + 7a - 49 = 0$$

$$856) 25k^2 - 85k + 42 = 0$$

$$857) 49p^2 - 504p - 1008 = 0$$

$$858) 13x^2 - 134x - 99 = 0$$

$$859) 11n^2 + 168n + 196 = 0$$

$$860) 3m^2 - 31m + 36 = 0$$

$$861) 715r^2 + 920r + 240 = 0$$

$$862) 3x^2 + 23x + 42 = 0$$

$$863) 21n^2 + 37n - 28 = 0$$

$$864) 11b^2 - 149b - 70 = 0$$

$$865) 154x^2 - 1260x + 1274 = 0$$

$$866) 39v^2 + 86v + 35 = 0$$

$$867) 5n^2 - 76n + 143 = 0$$

$$868) 121a^2 - 187a + 52 = 0$$

$$869) 13k^2 - 5k - 8 = 0$$

$$870) 91x^2 + 81x - 70 = 0$$

$$871) 18n^2 - 12n - 96 = 0$$

$$872) 91x^2 - 173x + 72 = 0$$

$$873) 25k^2 - 25k - 24 = 0$$

$$874) 7p^2 + 108p + 140 = 0$$

$$875) 12n^2 - 18n - 30 = 0$$

$$876) 56x^2 + 368x - 168 = 0$$

$$877) 7m^2 - 39m - 18 = 0$$

$$878) 33r^2 + 62r - 35 = 0$$

$$879) 5x^2 + 3x - 26 = 0$$

$$880) 11n^2 - 101n - 90 = 0$$



$$881) 13b^2 + 49b + 30 = 0$$

$$882) 90v^2 + 48v - 840 = 0$$

$$883) 605x^2 + 220x - 585 = 0$$

$$884) 20x^2 - 44x - 280 = 0$$

$$885) 2a^2 - 13a - 24 = 0$$

$$886) 104k^2 + 368k - 192 = 0$$

$$887) 2p^2 - 27p - 14 = 0$$

$$888) 70x^2 - 966x + 728 = 0$$

$$889) 10n^2 - 62n + 88 = 0$$

$$890) 91m^2 - 155m + 66 = 0$$

$$891) 55r^2 + 485r + 360 = 0$$

$$892) 39x^2 - 33x - 6 = 0$$

$$893) 169n^2 - 182n + 48 = 0$$

$$894) 3b^2 + 26b - 77 = 0$$

$$895) 39v^2 + 62v + 24 = 0$$

$$896) 49x^2 - 217x - 462 = 0$$

$$897) 40n^2 + 96n - 256 = 0$$

$$898) 132a^2 - 1332a + 120 = 0$$

$$899) 2k^2 - 9k + 9 = 0$$

$$900) 5x^2 + 23x - 42 = 0$$

$$901) 5x^2 + 49x + 107 = 9$$

$$902) 132k^2 - 1260k - 606 = -6$$

$$903) 13n^2 + 137n - 55 = 11$$

$$904) 14p^2 - 73p - 14 = 8$$

$$905) 294x^2 - 504x - 68 = 10$$

$$906) 3n^2 - 32n + 66 = -11$$

$$907) 7m^2 - 22m - 54 = 11$$

$$908) 91r^2 + 351r + 227 = -7$$

$$909) 13x^2 - 134x + 45 = 5$$

$$910) 18n^2 - 279n + 365 = -13$$

$$911) 5b^2 + 77b + 88 = -10$$

$$912) 539v^2 + 182v - 10 = 11$$

$$913) 11x^2 - 111x - 116 = -6$$

$$914) 14x^2 + 19x - 6 = -11$$

$$915) 2a^2 + a + 2 = 3$$

$$916) 390k^2 + 696k - 574 = 2$$

$$917) 6p^2 + 5p = 11$$

$$918) 6x^2 - 31x - 36 = -6$$

$$919) 7n^2 - 60n - 15 = 12$$

$$920) 20m^2 - 95m - 162 = -12$$

$$921) 13r^2 + 63r + 3 = 13$$

$$922) 65n^2 - 962n + 2178 = -6$$

$$923) 143x^2 + 136x - 36 = 3$$

$$924) 4b^2 - 9b - 24 = 4$$

$$925) 11v^2 + 83v + 30 = -12$$

$$926) 2x^2 - 19x = -9$$

$$927) 770n^2 - 1910n + 1114 = 14$$

$$928) 70a^2 + 110a - 307 = -7$$

$$929) 16k^2 - 60k + 47 = -9$$

$$930) 3x^2 - 19x + 23 = -3$$

$$931) 3x^2 - 16x - 37 = -2$$

$$932) 22n^2 - 85n + 26 = -2$$

$$933) 5m^2 - 72m + 94 = 3$$

$$934) 728p^2 + 1504p + 773 = 5$$

$$935) 5x^2 + 12x - 55 = 10$$

$$936) 8n^2 - 100n + 304 = -4$$

$$937) 7m^2 - 17m - 41 = 3$$

$$938) 2r^2 - 3r + 4 = 9$$

$$939) 66x^2 + 84x - 101 = -5$$

$$940) 88n^2 - 1133n + 932 = 8$$

$$941) 1210b^2 + 1320b - 294 = -14$$

$$942) 156v^2 - 744v - 170 = 10$$

$$943) 5x^2 - 23x - 4 = 6$$

$$944) 10x^2 - 21x - 56 = -7$$

$$945) 5a^2 - 28a + 31 = -8$$

$$946) 5k^2 - 14k - 5 = -14$$

$$947) 11p^2 + 117p + 64 = -6$$

$$948) 52x^2 + 122x + 57 = -9$$

$$949) 2n^2 - 23n + 42 = -3$$

$$950) 5m^2 + 51m - 121 = -13$$

$$951) 35r^2 - 8r - 18 = -2$$

$$952) 7x^2 - 39x - 68 = 2$$

$$953) 13n^2 - 178n - 52 = 4$$

$$954) 13b^2 - 45b + 22 = 4$$

$$955) 91v^2 + 99v - 133 = -3$$

$$956) 195x^2 - 627x + 307 = -5$$

$$957) 11n^2 + 100n + 105 = 9$$

$$958) 7a^2 - 22a - 5 = -8$$

$$959) 234k^2 - 726k + 411 = -9$$

$$960) 11x^2 - 118x - 37 = -4$$



$$961) 5x^2 + 36x - 134 = 6$$

$$962) 3n^2 + 49n + 116 = -14$$

$$963) 30m^2 + 370m + 1046 = 6$$

$$964) 13p^2 + 56p + 8 = -8$$

$$965) 143x^2 - 159x + 53 = 13$$

$$966) 585n^2 - 1332n + 761 = 5$$

$$967) 3m^2 + 11m - 73 = -3$$

$$968) 3r^2 + r - 12 = 12$$

$$969) 154x^2 - 1428x - 1115 = 5$$

$$970) 11n^2 + 10n - 22 = 2$$

$$971) 11b^2 + 123b + 15 = -7$$

$$972) 5v^2 - 43v + 60 = 4$$

$$973) 28x^2 + 82x + 60 = 8$$

$$974) 14x^2 + 64x + 70 = 4$$

$$975) 77a^2 - 120a + 19 = -8$$

$$976) 156k^2 + 1236k - 1504 = 8$$

$$977) 616p^2 + 24p - 436 = -4$$

$$978) 13x^2 + 35x - 18 = -6$$

$$979) 7n^2 - 64n - 156 = -13$$

$$980) 11m^2 + 76m - 110 = -14$$

$$981) 14r^2 + 7r - 15 = 6$$

$$982) 121x^2 + 22x - 177 = -9$$

$$983) 5n^2 + 47n - 96 = -8$$

$$984) 5b^2 - 3b - 32 = -6$$

$$985) 7v^2 - 26v + 5 = 13$$

$$986) 13x^2 + 187x + 67 = -3$$

$$987) 13n^2 - 34n - 4 = 11$$

$$988) 15a^2 - 65a + 54 = -6$$

$$989) 11k^2 - 35k - 49 = -13$$

$$990) 36x^2 + 171x + 177 = -12$$

$$991) 7x^2 - 6x - 12 = 4$$

$$992) 273n^2 - 1078n + 571 = 11$$

$$993) 5m^2 - 49m - 2 = 8$$

$$994) 60p^2 - 36p - 90 = 6$$

$$995) 56x^2 + 126x - 390 = 2$$

$$996) 5n^2 + 77n + 168 = 12$$

$$997) 91b^2 + 109b + 26 = -4$$

$$998) 13r^2 - 51r - 17 = -13$$

$$999) 3x^2 - 46x + 44 = -12$$

$$1000) 5n^2 - 64n + 42 = -6$$

$$1001) 63b^2 - 180b = -117$$

$$1002) 12v^2 - 54v = 66$$

$$1003) 98x^2 + 770x = 1008$$

$$1004) 143x^2 - 93x = 8$$

$$1005) 33a^2 = 216 - 273a$$

$$1006) 22p^2 - 123p = -11$$

$$1007) 30k^2 = -288k + 864$$

$$1008) 154x^2 - 658x = 560$$

$$1009) 8n^2 - 9 = -n$$

$$1010) 3m^2 - 20 = -11m$$

$$1011) 3r^2 = -24 + 17r$$

$$1012) 84x^2 + 1386 = -910x$$

$$1013) 77n^2 = -792 - 715n$$

$$1014) 20b^2 + 25 = -60b$$

$$1015) 10v^2 - 540 = -75v$$

$$1016) 7x^2 + 8x = 39$$

$$1017) 143n^2 - 200n = -48$$

$$1018) 5a^2 = 91 + 22a$$

$$1019) 15k^2 = 130 + 11k$$

$$1020) 121x^2 - 99x = -14$$

$$1021) 13x^2 = 43x - 12$$

$$1022) 3n^2 = -104 + 47n$$

$$1023) 7m^2 - 96 = -44m$$

$$1024) 7p^2 - 4 = -27p$$

$$1025) 52x^2 - 552x = 220$$

$$1026) 42n^2 - 210 = -264n$$

$$1027) 143b^2 = 1482b - 520$$

$$1028) 5r^2 - 51r = -88$$

$$1029) 11x^2 - 97x = 130$$

$$1030) 11n^2 + 36 = -53n$$

$$1031) 108b^2 + 984b = 960$$

$$1032) 3v^2 + 31v = -78$$

$$1033) 3x^2 - 49 = -14x$$

$$1034) 2x^2 + 40 = -21x$$

$$1035) 7a^2 - 120 = 74a$$

$$1036) 39k^2 + 160k = -100$$

$$1037) 13p^2 - 181p = 14$$

$$1038) 110x^2 = -198 + 319x$$

$$1039) 45n^2 - 810 = 369n$$

$$1040) 20m^2 + 168 = -116m$$



$$1041) 169r^2 - 1313r = -910$$

$$1042) 11x^2 = 150x + 56$$

$$1043) 7n^2 + 48 = -62n$$

$$1044) 24b^2 + 224 = 152b$$

$$1045) 42v^2 - 618v = -936$$

$$1046) 52x^2 - 732x = -56$$

$$1047) 132a^2 + 1320 = 1572a$$

$$1048) 13n^2 = 6 + 7n$$

$$1049) 3k^2 - 7 = 20k$$

$$1050) 11x^2 - 96 = 124x$$

$$1051) 11x^2 - 56 = -69x$$

$$1052) 121n^2 + 1804n = -1540$$

$$1053) 260m^2 + 48m = 20$$

$$1054) 88p^2 + 1000p = -352$$

$$1055) 5x^2 + 108 = 69x$$

$$1056) 7n^2 - 77 = -38n$$

$$1057) 91b^2 - 338 = 13b$$

$$1058) 33r^2 = 140r - 100$$

$$1059) 39x^2 + 396x = -60$$

$$1060) 35n^2 - 66 = 13n$$

$$1061) 10a^2 + 103a = 77$$

$$1062) 70v^2 = 325 + 285v$$

$$1063) 6x^2 + 24 = -25x$$

$$1064) 11x^2 - 30 = 61x$$

$$1065) 117a^2 + 1820 = 1352a$$

$$1066) 91k^2 - 112k = -21$$

$$1067) 7p^2 - 32p = -33$$

$$1068) 147x^2 - 252x = -33$$

$$1069) 13n^2 + 124n = -63$$

$$1070) 15m^2 - 38m = -11$$

$$1071) 30r^2 - 260r = -160$$

$$1072) 21x^2 + 182x = 539$$

$$1073) 65n^2 - 1053n = -2002$$

$$1074) 22b^2 - 440 = 121b$$

$$1075) 24v^2 = 208 + 296v$$

$$1076) 22x^2 + 55 = -121x$$

$$1077) 5n^2 = -3 + 8n$$

$$1078) 847a^2 = 756 + 231a$$

$$1079) 84k^2 = 480 + 792k$$

$$1080) 3x^2 = 11x - 6$$

$$1081) 13x^2 - 27 = 114x$$

$$1082) 3m^2 - 7 = 4m$$

$$1083) 12n^2 - 400 = -80n$$

$$1084) 27x^2 = 387x - 756$$

$$1085) 42p^2 - 476p = -1274$$

$$1086) 11n^2 = -18 - 39n$$

$$1087) 5b^2 = -21b + 20$$

$$1088) 2r^2 - 31r = -65$$

$$1089) 65x^2 - 780 = -785x$$

$$1090) 143a^2 - 1210 = 1463a$$

$$1091) 65n^2 - 247n = -182$$

$$1092) 33v^2 + 420 = -372v$$

$$1093) 3x^2 = -x + 2$$

$$1094) 11x^2 + 154 = -135x$$

$$1095) 3n^2 = -25n + 132$$

$$1096) 156k^2 + 144 = -316k$$

$$1097) 11p^2 = 15p - 4$$

$$1098) 50x^2 = 420 - 670x$$

$$1099) 5n^2 - 38n = 120$$

$$1100) 2m^2 = 39m - 169$$

**Solve level 5 complexity equations:**

1101)  $5r^2 - 74r + 166 = -2$

1102)  $143x^2 + 192x + 74 = 10$

1103)  $13n^2 + 4n + 3 = 3$

1104)  $10b^2 + 41b - 40 = 5$

1105)  $11v^2 + 85v - 122 = 4$

1106)  $3x^2 - x - 42 = -12$

1107)  $77n^2 - 53n + 17 = 11$

1108)  $11a^2 + 150a + 99 = 8$

1109)  $11k^2 - 103k - 84 = -14$

1110)  $5p^2 + 22p - 99 = -8$

$$1111) 3x^2 + 34x + 97 = 6$$

$$1112) 25n^2 - 70n + 36 = -13$$

$$1113) 121m^2 + 143m + 52 = 12$$

$$1114) 7p^2 + 33p + 16 = -4$$

$$1115) 3x^2 + 32x - 23 = -12$$

$$1116) 3b^2 - 34b + 89 = 9$$

$$1117) 3n^2 - 19n + 25 = 5$$

$$1118) 7r^2 + 96r + 133 = -11$$

$$1119) 5x^2 + 4x + 5 = 5$$

$$1120) 2n^2 - 7n - 7 = 8$$



$$1121) 5a^2 - 57a - 111 = -7$$

$$1122) 21x^2 + 43x - 20 = -6$$

$$1123) 5v^2 + 27v - 58 = -2$$

$$1124) 5x^2 + 68x + 98 = 2$$

$$1125) 11n^2 + 117n + 67 = -3$$

$$1126) 13k^2 + 61k + 43 = 7$$

$$1127) 10p^2 - 119p + 110 = 11$$

$$1128) 5x^2 + 2x + 11 = 11$$

$$1129) 7n^2 + 13n + 8 = 8$$

$$1130) 7m^2 - 34m - 60 = -12$$

$$1131) 7r^2 + 74r - 45 = -12$$

$$1132) 2x^2 + 11x + 1 = 7$$

$$1133) 5n^2 - 28n + 20 = -12$$

$$1134) 7b^2 + 8b + 11 = 10$$

$$1135) 11v^2 + 111v + 115 = 7$$

$$1136) 14x^2 + 125x - 13 = -4$$

$$1137) 13a^2 + 89a + 59 = -7$$

$$1138) 65k^2 - 34k - 19 = 5$$

$$1139) 3p^2 - 7p - 9 = -9$$

$$1140) 33x^2 + 175x + 91 = -7$$

$$1141) 13n^2 + 69n + 8 = -12$$

$$1142) 12m^2 + 79m - 27 = 8$$

$$1143) 5p^2 - 66p + 79 = 7$$

$$1144) 5x^2 + 23x - 97 = -13$$

$$1145) 33n^2 - 70n - 57 = -9$$

$$1146) 11r^2 - 122r + 131 = 11$$

$$1147) 3x^2 - 4x - 2 = -2$$

$$1148) 7n^2 + 82n - 106 = 11$$

$$1149) 7a^2 + 78a - 181 = -12$$

$$1150) 7v^2 + 30v + 24 = -3$$

$$1151) 3x^2 + 5x + 9 = 9$$

$$1152) 55x^2 + 43x + 10 = 4$$

$$1153) 7n^2 - 96n - 17 = 11$$

$$1154) 5k^2 - 27k + 42 = 6$$

$$1155) 9p^2 - 2p = 11$$

$$1156) 4x^2 + 57x + 111 = 3$$

$$1157) 2n^2 + n + 4 = 7$$

$$1158) 35m^2 + 41m - 133 = -3$$

$$1159) 3r^2 + 28r - 99 = -3$$

$$1160) 7n^2 - 26n - 58 = -13$$

$$1161) 13b^2 + 187b + 67 = -3$$

$$1162) 2v^2 + 25v + 63 = 13$$

$$1163) 5x^2 + 58x + 88 = 8$$

$$1164) 5n^2 - 71n + 128 = -4$$

$$1165) 11a^2 - 135a - 115 = -11$$

$$1166) 6k^2 - 85k + 19 = 5$$

$$1167) 2x^2 + 17x - 23 = 7$$

$$1168) 169p^2 - 156p + 14 = -13$$

$$1169) 49n^2 - 84n - 3 = 10$$

$$1170) 169m^2 - 130m + 14 = -7$$

$$1171) 7r^2 + 103r + 162 = 6$$

$$1172) 9x^2 + 121x + 39 = -13$$

$$1173) 13n^2 - 51n - 8 = -4$$

$$1174) 22b^2 - 131b - 67 = 11$$

$$1175) 5r^2 + 19r - 80 = -14$$

$$1176) 11x^2 + 2x - 18 = -5$$

$$1177) 9n^2 - 128n + 151 = 8$$

$$1178) 3a^2 + 8a - 16 = -13$$

$$1179) 121v^2 - 11v + 4 = 10$$

$$1180) 2x^2 - 23x + 62 = 6$$

$$1181) 5x^2 + 19x + 4 = -10$$

$$1182) 11n^2 - 8n + 4 = 7$$

$$1183) 13k^2 - 59k - 24 = 6$$

$$1184) 55p^2 - 57p - 34 = -6$$

$$1185) 11n^2 - 2n + 5 = 5$$

$$1186) 11m^2 - 118m - 154 = 14$$

$$1187) 11r^2 + 97r + 69 = -3$$

$$1188) 22x^2 - 29x - 67 = -2$$

$$1189) 2n^2 - 7n - 6 = -6$$

$$1190) 13b^2 + 119b + 11 = -7$$

$$1191) 5v^2 + 3v - 30 = 6$$

$$1192) 11x^2 + 38x - 22 = 2$$

$$1193) 14n^2 - 169n - 165 = 4$$

$$1194) 13a^2 + a + 5 = 5$$

$$1195) 143k^2 - 226k + 61 = 5$$

$$1196) 6p^2 - 49p + 51 = -14$$

$$1197) 11x^2 + 113x + 130 = 4$$

$$1198) 2m^2 - 15m - 54 = -4$$

$$1199) 11n^2 - n - 23 = -13$$

$$1200) 33r^2 + 139r + 70 = 4$$



$$1201) 5x^2 + 49x - 56 = -17x$$

$$1202) 5n^2 - 31n + 50 = 6n - 18$$

$$1203) 6b^2 - 170b - 200 = -13b^2$$

$$1204) 7r^2 - r = 0$$

$$1205) 6x^2 + 95x + 214 = -7$$

$$1206) n^2 + 3n - 52 = -6n^2 + 2$$

$$1207) -2a^2 - 78a - 68 = 10 - 16a^2 - 7a$$

$$1208) 85v^2 + 140 = -219v$$

$$1209) 11x^2 + 214x - 103 = 17$$

$$1210) 209x^2 + 179x - 7 = 3$$

$$1211) 11n^2 + 181 = 1 - 208n$$

$$1212) 247k^2 - 394k + 125 = -20k + 5$$

$$1213) 11p^2 + 142p - 105 = -16p$$

$$1214) 30x^2 + 17x - 6 = 20x^2$$

$$1215) 209n^2 + 414n + 142 = -18$$

$$1216) 13m^2 - 21 = 73m + 9$$

$$1217) 11r^2 - 5r - 20 = -17r$$

$$1218) 13x^2 - 7x - 29 = -9$$

$$1219) 133n^2 + 38 = 129n + 12$$

$$1220) 13b^2 - 30b + 8 = 18 - 9b$$

$$1221) 27v^2 - 348v + 160 = 10v^2$$

$$1222) 5x^2 + 64x - 236 = 20$$

$$1223) 7n^2 - 22 = 13n - 2$$

$$1224) 8a^2 - 186a - 17 = -3a^2$$

$$1225) 16k^2 - 281k + 129 = -15 - k^2$$

$$1226) 209p^2 - 192 = -172p$$

$$1227) 14x^2 - 123x + 247 = 6x^2$$

$$1228) 19n^2 + 79n + 32 = 20$$

$$1229) 16m^2 + 155m + 266 = -5m^2$$

$$1230) 47r^2 - 179r = -117 + 13r^2$$

$$1231) 15x^2 - 151x + 158 = 14$$

$$1232) 23n^2 + 22n + 3 = 14n^2 + 18$$

$$1233) 95b^2 - 71b + 12 = 20b$$

$$1234) 4v^2 = -5v$$

$$1235) 11x^2 + 86x = 60 - 18x$$

$$1236) 11n^2 + 140n + 180 = -7n$$

$$1237) 7a^2 = -3a$$

$$1238) 19v^2 + 16v = 0$$

$$1239) 169x^2 + 27x = 14x + 342$$

$$1240) 3x^2 - 7 = -12 - 16x$$

$$1241) 4n^2 - 186n + 154 = -7n^2 - 6$$

$$1242) 17k^2 - 30k - 12 = 12k^2 - 2k$$

$$1243) 3p^2 + 13p - 6 = -6$$

$$1244) 17x^2 - 213x + 126 = 18$$

$$1245) 6n^2 + 234 = 103n + n^2$$

$$1246) 13m^2 - 20m - 30 = -18$$

$$1247) -7r^2 - 144 = 48r - 12r^2$$

$$1248) 17x^2 + 28x - 23 = 12x^2 - 20 + 14x$$

$$1249) 5n^2 + 33 = -7 - 54n$$

$$1250) 2b^2 - 137 = 16 - 46b - 5b^2$$

$$1251) 143v^2 - 193v - 17 = 17v$$

$$1252) 7x^2 - 6 = -41x$$

$$1253) 33n^2 - 11n = 16n^2$$

$$1254) 15a^2 - 46a - 14 = 19$$

$$1255) k^2 - 169 = -6k^2 + 87k - 15$$

$$1256) 29p^2 + 346p + 100 = 12p^2 + p$$

$$1257) 6x^2 - 94x + 60 = -5x^2 + 12$$

$$1258) 25n^2 - 107n - 110 = 12n + 12n^2$$

$$1259) -3m^2 - 100m - 110 = 11m - 14m^2$$

$$1260) -7r^2 + 142r - 39 = 2r - 18r^2$$

$$1261) 23x^2 - 7x = 7x + 10x^2$$

$$1262) 13n^2 - 171 = -111n + 19$$

$$1263) 3b^2 - 210b + 82 = 2 - 10b^2 + 3b$$

$$1264) 13v^2 + 87v - 20 = 8$$

$$1265) 75x^2 - 236x + 180 = -2x^2$$

$$1266) 17a^2 - 213a - 112 = -8$$

$$1267) 11n^2 + 180n + 227 = -11 + 9n$$

$$1268) 4x^2 + 5x - 38 = -17$$

$$1269) 7v^2 + 110 = -20 - 101v$$

$$1270) 17x^2 + 125x + 140 = -14x$$

$$1271) 19n^2 - 10n - 2 = -2$$

$$1272) 103k^2 - 97k - 154 = -8k - 16k^2$$

$$1273) 2p^2 - 30 = 5 + 3p$$

$$1274) 19x^2 + 229x + 202 = -18$$

$$1275) 11n^2 - 227n + 132 = -8$$

$$1276) 110m^2 + 405m + 281 = 4m - 9m^2 + 9$$

$$1277) 18r^2 - 187r + 115 = -r^2 + 13r + 15$$

$$1278) 151x^2 - 72 = -18x^2 + 78x$$

$$1279) 2n^2 - n - 8 = -4n - 8 - 2n^2$$

$$1280) 15b^2 + 7b - 11 = -4b - 11$$



$$1281) 13v^2 + 147v = -84 - 16v$$

$$1282) 5x^2 - 56x - 110 = 7$$

$$1283) 221x^2 + 162 = 423x$$

$$1284) 35a^2 = -247 + 198a$$

$$1285) 6k^2 - 62k + 34 = 3k - 16$$

$$1286) -7p^2 + 53p + 204 = -10p^2$$

$$1287) 18x^2 - 54 = -4x^2 - 87x$$

$$1288) 27n^2 + 18n = 20n^2$$

$$1289) 21m^2 - 11m + 4 = 14m^2$$

$$1290) 3r^2 - 13r = 7 + r^2$$

$$1291) 11x^2 + x = 26 - 2x + 6x^2$$

$$1292) -10n^2 - 67n - 297 = 9 - 15n^2$$

$$1293) 5b^2 - 38b + 52 = -13$$

$$1294) 23v^2 + 106v + 288 = 18v^2$$

$$1295) 13x^2 - 266x - 19 = -20x$$

$$1296) 5n^2 + 82n - 15 = 8n$$

$$1297) -a^2 + 68a - 8 = -14a^2 + 18a$$

$$1298) -8k^2 - 299 = -15k^2 - 14 + 118k$$

$$1299) 18x^2 - 121x - 120 = x^2$$

$$1300) 10x^2 + 152 = -99x$$

## Quadratic equations - Solve by factoring

**Solve level 1 complexity equations:**

1)  $2(3r + 4)(r - 3) = 0$

$$\left\{-\frac{4}{3}, 3\right\}$$

2)  $2(x + 1)(x + 4) = 0$

$$\{-1, -4\}$$

3)  $4(3n + 1)(n + 5) = 0$

$$\left\{-\frac{1}{3}, -5\right\}$$

4)  $4(a + 3)(a + 2) = 0$

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

5)  $4(v - 2)(2v + 5) = 0$

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

6)  $5(x - 2)(x + 1) = 0$

$$\{2, -1\}$$

7)  $3(x - 3)(x + 5) = 0$

$$\{3, -5\}$$

8)  $2(k - 2)(3k - 1) = 0$

$$\left\{2, \frac{1}{3}\right\}$$

9)  $3(n - 1)(2n + 1) = 0$

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

10)  $2(p + 5)(5p - 4) = 0$

$$\left\{-5, \frac{4}{5}\right\}$$

$$11) 4(4x - 3)(x - 1) = 0$$

$$\left\{ \frac{3}{4}, 1 \right\}$$

$$12) 3(3n - 1)(5n + 1) = 0$$

$$\left\{ \frac{1}{3}, -\frac{1}{5} \right\}$$

$$13) 2(m + 3)(m - 2) = 0$$

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

$$14) 2(3r + 1)(5r - 3) = 0$$

$$\left\{ -\frac{1}{3}, \frac{3}{5} \right\}$$

$$15) 5(x + 4)(x - 1) = 0$$

$$\{-4, 1\}$$

$$16) 5(n + 3)(n - 4) = 0$$

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

$$17) 5(4b - 1)(b - 3) = 0$$

$$\left\{ \frac{1}{4}, 3 \right\}$$

$$18) 2(v - 4)(v - 2) = 0$$

$$\{4, 2\}$$

$$19) 2(x + 3)(x - 5) = 0$$

$$\{-3, 5\}$$

$$20) 3(n - 3)(3n - 5) = 0$$

$$\left\{ 3, \frac{5}{3} \right\}$$

$$21) 4(3a + 5)(a - 5) = 0$$

$$\left\{-\frac{5}{3}, 5\right\}$$

$$22) 4(k - 2)^2 = 0$$

$$\{2\}$$

$$23) 5(p - 2)^2 = 0$$

$$\{2\}$$

$$24) 2(5x - 2)(3x - 4) = 0$$

$$\left\{\frac{2}{5}, \frac{4}{3}\right\}$$

$$25) 3(n + 1)(n + 3) = 0$$

$$\{-1, -3\}$$

$$26) 5(m - 2)(m - 1) = 0$$

$$\{2, 1\}$$

$$27) 2(r + 1)(r - 3) = 0$$

$$\{-1, 3\}$$

$$28) 4(4x - 3)(3x - 2) = 0$$

$$\left\{\frac{3}{4}, \frac{2}{3}\right\}$$

$$29) 2(n + 1)(n - 2) = 0$$

$$\{-1, 2\}$$

$$30) 4(b + 4)(b - 3) = 0$$

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

$$31) 4(r-2)(r+1) = 0$$

$$\{2, -1\}$$

$$32) 4(x+5)(2x+1) = 0$$

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

$$33) 5(3n+2)(n-2) = 0$$

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

$$34) 4(a-5)(a-3) = 0$$

$$\{5, 3\}$$

$$35) 2(v-3)(v-4) = 0$$

$$\{3, 4\}$$

$$36) 4(x-2)(3x-2) = 0$$

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

$$37) 5(3x-4)(2x-5) = 0$$

$$\left\{\frac{4}{3}, \frac{5}{2}\right\}$$

$$38) 3(n-2)(n-4) = 0$$

$$\{2, 4\}$$

$$39) 5(k-4)(k-5) = 0$$

$$\{4, 5\}$$

$$40) 2(p-4)(p-3) = 0$$

$$\{4, 3\}$$

$$41) 3(x+4)(x-3) = 0$$

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

$$42) 5(n+2)(n-5) = 0$$

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

$$43) 5(3m-5)(2m-5) = 0$$

$$\left\{\frac{5}{3}, \frac{5}{2}\right\}$$

$$44) 5(x-5)(x-4) = 0$$

$$\{5, 4\}$$

$$45) 4(r+4)(3r+5) = 0$$

$$\left\{-4, -\frac{5}{3}\right\}$$

$$46) 5(5n+4)(n-3) = 0$$

$$\left\{-\frac{4}{5}, 3\right\}$$

$$47) 2(5v-1)(v-1) = 0$$

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

$$48) 3(x+5)(2x+3) = 0$$

$$\left\{-5, -\frac{3}{2}\right\}$$

$$49) 3(n+2)^2 = 0$$

$$\{-2\}$$

$$50) 2(4a-3)(a+3) = 0$$

$$\left\{\frac{3}{4}, -3\right\}$$

$$51) 2(k-3)(k+4) = 0$$

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

$$52) 4(p+1)(2p+3) = 0$$

$$\left\{-1, -\frac{3}{2}\right\}$$

$$53) 3(x-1)(x+4) = 0$$

$$\{1, -4\}$$

$$54) 3(m-1)^2 = 0$$

$$\{1\}$$

$$55) 3(r+1)(4r-3) = 0$$

$$\left\{-1, \frac{3}{4}\right\}$$

$$56) 2(x+2)(x-3) = 0$$

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

$$57) 5(n+3)^2 = 0$$

$$\{-3\}$$

$$58) 4(4b-5)(b-1) = 0$$

$$\left\{\frac{5}{4}, 1\right\}$$

$$59) 5(r+4)(3r-1) = 0$$

$$\left\{-4, \frac{1}{3}\right\}$$

$$60) 4(x-3)(x+4) = 0$$

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



$$61) 4(5n - 1)(n + 1) = 0$$

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

$$62) 3(a - 5)(a + 3) = 0$$

$$\{5, -3\}$$

$$63) 5(v - 3)(v - 4) = 0$$

$$\{3, 4\}$$

$$64) 5(x - 3)(3x - 4) = 0$$

$$\left\{ 3, \frac{4}{3} \right\}$$

$$65) 3(5x - 3)(x - 5) = 0$$

$$\left\{ \frac{3}{5}, 5 \right\}$$

$$66) 3(4n - 3)(n - 3) = 0$$

$$\left\{ \frac{3}{4}, 3 \right\}$$

$$67) 3(2k - 1)(k - 4) = 0$$

$$\left\{ \frac{1}{2}, 4 \right\}$$

$$68) 4(2p - 1)(p - 5) = 0$$

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

$$69) 4(x - 5)(5x + 1) = 0$$

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

$$70) 3(n + 1)(n + 2) = 0$$

$$\{-1, -2\}$$

$$71) 2(m - 4)(m + 2) = 0$$

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

$$72) 5(r - 3)(3r + 4) = 0$$

$$\left\{3, -\frac{4}{3}\right\}$$

$$73) 3(5n + 4)(n + 5) = 0$$

$$\left\{-\frac{4}{5}, -5\right\}$$

$$74) 5(3b + 4)(b + 2) = 0$$

$$\left\{-\frac{4}{3}, -2\right\}$$

$$75) 2(x - 5)(x + 1) = 0$$

$$\{5, -1\}$$

$$76) 3(n + 4)(n + 1) = 0$$

$$\{-4, -1\}$$

$$77) 4(a - 4)(3a + 1) = 0$$

$$\left\{4, -\frac{1}{3}\right\}$$

$$78) 5(k - 2)(k - 5) = 0$$

$$\{2, 5\}$$

$$79) 4(p - 2)(p - 5) = 0$$

$$\{2, 5\}$$

$$80) 2(x - 1)^2 = 0$$

$$\{1\}$$

$$81) 3(4n - 5)(n + 4) = 0$$

$$\left\{ \frac{5}{4}, -4 \right\}$$

$$82) 3(m - 3)(2m + 3) = 0$$

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

$$83) 5(r - 3)(r - 2) = 0$$

$$\{3, 2\}$$

$$84) 5(x + 2)(x - 3) = 0$$

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

$$85) 5(5n + 1)(n - 4) = 0$$

$$\left\{ -\frac{1}{5}, 4 \right\}$$

$$86) 2(5b - 3)(b - 3) = 0$$

$$\left\{ \frac{3}{5}, 3 \right\}$$

$$87) 3(v + 3)(v - 1) = 0$$

$$\{-3, 1\}$$

$$88) 4(x - 4)(2x + 1) = 0$$

$$\left\{ 4, -\frac{1}{2} \right\}$$

$$89) 4(n + 4)(4n - 5) = 0$$

$$\left\{ -4, \frac{5}{4} \right\}$$

$$90) 5(4a + 3)(a - 5) = 0$$

$$\left\{ -\frac{3}{4}, 5 \right\}$$

$$91) 5(v-4)(v-2) = 0$$

$$\{4, 2\}$$

$$92) 3(4x+1)(4x-3) = 0$$

$$\left\{-\frac{1}{4}, \frac{3}{4}\right\}$$

$$93) 2(n-3)(n-2) = 0$$

$$\{3, 2\}$$

$$94) 5(2k+5)(k+3) = 0$$

$$\left\{-\frac{5}{2}, -3\right\}$$

$$95) 3(p-1)(p-3) = 0$$

$$\{1, 3\}$$

$$96) 3(2x+3)(x-5) = 0$$

$$\left\{-\frac{3}{2}, 5\right\}$$

$$97) 3(n+5)(5n+2) = 0$$

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

$$98) 5(m+1)(m-3) = 0$$

$$\{-1, 3\}$$

$$99) 2(r+5)(r-1) = 0$$

$$\{-5, 1\}$$

$$100) 2(5x+4)(x+3) = 0$$

$$\left\{-\frac{4}{5}, -3\right\}$$

**Solve level 2 complexity equations:**

101)  $7b^2 + 84b + 252 = 0$

$\{-6\}$

102)  $3n^2 - 9n - 12 = 0$

$\{4, -1\}$

103)  $2v^2 - 24v + 64 = 0$

$\{4, 8\}$

104)  $7x^2 + 91x + 280 = 0$

$\{-8, -5\}$

105)  $3n^2 + 36n + 105 = 0$

$\{-5, -7\}$

106)  $5a^2 - 45a + 40 = 0$

$\{8, 1\}$

107)  $2k^2 + 4k - 16 = 0$

$\{-4, 2\}$

108)  $5p^2 - 55p + 120 = 0$

$\{8, 3\}$

109)  $4n^2 - 12n - 160 = 0$

$\{8, -5\}$

110)  $8x^2 - 56x + 96 = 0$

$\{4, 3\}$

$$111) 4m^2 + 56m + 196 = 0$$

$$\{-7\}$$

$$112) 4r^2 - 20r - 24 = 0$$

$$\{-1, 6\}$$

$$113) 7x^2 - 63x + 140 = 0$$

$$\{4, 5\}$$

$$114) 3n^2 - 12n - 36 = 0$$

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

$$115) 7b^2 - 7b - 210 = 0$$

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

$$116) 2v^2 - 6v - 8 = 0$$

$$\{4, -1\}$$

$$117) 6x^2 + 30x + 24 = 0$$

$$\{-4, -1\}$$

$$118) 8n^2 - 128n + 512 = 0$$

$$\{8\}$$

$$119) 2v^2 - 18v + 16 = 0$$

$$\{8, 1\}$$

$$120) 6a^2 + 60a + 150 = 0$$

$$\{-5\}$$

$$121) 6x^2 + 18x - 168 = 0$$

$$\{4, -7\}$$

$$122) 8x^2 + 120x + 448 = 0$$

$$\{-8, -7\}$$

$$123) 5n^2 + 10n - 120 = 0$$

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

$$124) 7k^2 + 28k - 84 = 0$$

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

$$125) 4p^2 - 28p + 48 = 0$$

$$\{4, 3\}$$

$$126) 5x^2 + 30x - 80 = 0$$

$$\{-8, 2\}$$

$$127) 4n^2 - 4n - 80 = 0$$

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

$$128) 4m^2 - 40m + 84 = 0$$

$$\{7, 3\}$$

$$129) 3r^2 + 21r + 36 = 0$$

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

$$130) 7x^2 - 42x - 112 = 0$$

$$\{8, -2\}$$

$$131) 2n^2 + 12n + 16 = 0$$

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

$$132) 6b^2 + 6b - 336 = 0$$

$$\{-8, 7\}$$

$$133) 3v^2 - 36v + 96 = 0$$

$$\{4, 8\}$$

$$134) 6x^2 + 96x + 384 = 0$$

$$\{-8\}$$

$$135) 2n^2 + 8n - 64 = 0$$

$$\{4, -8\}$$

$$136) 8a^2 - 96a + 288 = 0$$

$$\{6\}$$

$$137) 2k^2 - 12k + 16 = 0$$

$$\{4, 2\}$$

$$138) 8p^2 - 88p + 224 = 0$$

$$\{4, 7\}$$

$$139) 8x^2 + 8x - 96 = 0$$

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

$$140) 4n^2 + 24n - 64 = 0$$

$$\{2, -8\}$$



$$141) 7m^2 + 63m + 140 = 0$$

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

$$142) 4r^2 - 16r - 128 = 0$$

$$\{8, -4\}$$

$$143) 7x^2 - 7x - 140 = 0$$

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

$$144) 3n^2 + 9n - 120 = 0$$

$$\{-8, 5\}$$

$$145) 6b^2 - 60b + 144 = 0$$

$$\{4, 6\}$$

$$146) 3v^2 + 3v - 168 = 0$$

$$\{-8, 7\}$$

$$147) 6x^2 - 12x - 48 = 0$$

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

$$148) 4n^2 + 60n + 224 = 0$$

$$\{-8, -7\}$$

$$149) 4a^2 - 8a - 60 = 0$$

$$\{5, -3\}$$

$$150) 2k^2 - 18k + 28 = 0$$

$$\{7, 2\}$$

$$151) 5x^2 + 60x + 160 = 0$$

$$\{-4, -8\}$$

$$152) 5n^2 + 50n + 120 = 0$$

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

$$153) 2x^2 - 14x + 20 = 0$$

$$\{5, 2\}$$

$$154) 8k^2 + 112k + 384 = 0$$

$$\{-8, -6\}$$

$$155) 4p^2 + 4p - 48 = 0$$

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

$$156) 8x^2 + 32x - 256 = 0$$

$$\{-8, 4\}$$

$$157) 3n^2 - 24n + 48 = 0$$

$$\{4\}$$

$$158) 7m^2 + 84m + 224 = 0$$

$$\{-8, -4\}$$

$$159) 3n^2 - 9n - 30 = 0$$

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

$$160) 6x^2 - 6x - 72 = 0$$

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

$$161) 5b^2 - 40b + 60 = 0$$

$$\{2, 6\}$$

$$162) 2v^2 - 6v - 56 = 0$$

$$\{-4, 7\}$$

$$163) 5x^2 - 45x + 40 = 0$$

$$\{1, 8\}$$

$$164) 2x^2 + 24x + 64 = 0$$

$$\{-4, -8\}$$

$$165) 8k^2 + 24k - 32 = 0$$

$$\{-4, 1\}$$

$$166) 2n^2 + 26n + 80 = 0$$

$$\{-8, -5\}$$

$$167) 2m^2 + 2m - 60 = 0$$

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

$$168) 2r^2 + 2r - 112 = 0$$

$$\{7, -8\}$$

$$169) 7x^2 + 56x + 112 = 0$$

$$\{-4\}$$

$$170) 8n^2 + 16n - 280 = 0$$

$$\{5, -7\}$$

$$171) 7b^2 - 14b - 168 = 0$$

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

$$172) 2v^2 + 4v - 96 = 0$$

$$\{-8, 6\}$$

$$173) 6x^2 + 36x + 48 = 0$$

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

$$174) 2n^2 + 18n + 16 = 0$$

$$\{-8, -1\}$$

$$175) 5a^2 - 15a - 20 = 0$$

$$\{4, -1\}$$

$$176) 5k^2 + 25k - 120 = 0$$

$$\{-8, 3\}$$

$$177) 5x^2 + 15x - 200 = 0$$

$$\{5, -8\}$$

$$178) 5x^2 - 40x + 80 = 0$$

$$\{4\}$$

$$179) 4n^2 + 8n - 140 = 0$$

$$\{5, -7\}$$

$$180) 3k^2 + 6k - 24 = 0$$

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

$$181) 3p^2 + 3p - 36 = 0$$

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

$$182) 7x^2 - 28x + 21 = 0$$

$$\{1, 3\}$$

$$183) 5n^2 + 10n - 15 = 0$$

$$\{1, -3\}$$

$$184) 7m^2 + 21m - 280 = 0$$

$$\{-8, 5\}$$

$$185) 3r^2 + 24r + 48 = 0$$

$$\{-4\}$$

$$186) 6x^2 + 66x + 144 = 0$$

$$\{-8, -3\}$$

$$187) 5b^2 + 10b - 240 = 0$$

$$\{-8, 6\}$$

$$188) 2v^2 - 24v + 70 = 0$$

$$\{5, 7\}$$

$$189) 7x^2 - 42x - 49 = 0$$

$$\{7, -1\}$$

$$190) 8x^2 - 104x + 320 = 0$$

$$\{5, 8\}$$

$$191) 4a^2 + 16a - 20 = 0$$

$$\{1, -5\}$$

$$192) 4p^2 - 8p + 4 = 0$$

$$\{1\}$$

$$193) 8x^2 + 16x - 64 = 0$$

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

$$194) 4n^2 + 56n + 192 = 0$$

$$\{-8, -6\}$$

$$195) 7m^2 + 70m + 168 = 0$$

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

$$196) 3r^2 + 39r + 120 = 0$$

$$\{-8, -5\}$$

$$197) 7x^2 - 7x - 140 = 0$$

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

$$198) 6b^2 - 60b + 150 = 0$$

$$\{5\}$$

$$199) 2v^2 - 10v + 12 = 0$$

$$\{2, 3\}$$

$$200) 6x^2 - 18x - 60 = 0$$

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

$$201) 2n^2 - 26n + 82 = 10$$

$$\{9, 4\}$$

$$202) 3k^2 - 24k + 54 = 9$$

$$\{3, 5\}$$

$$203) 2a^2 + 30a + 118 = 10$$

$$\{-9, -6\}$$

$$204) 4x^2 - 52x + 177 = 9$$

$$\{6, 7\}$$

$$205) 5x^2 - 35x - 141 = 9$$

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

$$206) 6n^2 - 54n + 56 = 8$$

$$\{1, 8\}$$

$$207) 7m^2 - 7m - 76 = 8$$

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

$$208) 5p^2 - 45p + 44 = 4$$

$$\{8, 1\}$$

$$209) 8x^2 + 96x + 169 = 9$$

$$\{-2, -10\}$$

$$210) 2n^2 - 8n = -8$$

$$\{2\}$$

$$211) 10m^2 + 40m - 603 = -3$$

$$\{6, -10\}$$

$$212) 2r^2 + 22r + 66 = 10$$

$$\{-4, -7\}$$

$$213) 2x^2 + 10x + 14 = 6$$

$$\{-4, -1\}$$

$$214) 5b^2 + 50b + 118 = -2$$

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

$$215) 4n^2 + 16n - 86 = -2$$

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

$$216) 5v^2 - 25v - 72 = -2$$

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

$$217) 7x^2 + 21x - 31 = -3$$

$$\{1, -4\}$$

$$218) 7x^2 + 7x - 382 = 10$$

$$\{-8, 7\}$$

$$219) 8a^2 - 40a - 390 = 10$$

$$\{-5, 10\}$$

$$220) 10k^2 + 20k + 20 = 10$$

$$\{-1\}$$



$$221) 10p^2 - 170p + 725 = 5$$

$$\{8, 9\}$$

$$222) 9x^2 + 27x - 256 = -4$$

$$\{-7, 4\}$$

$$223) 3n^2 + 3n - 9 = 9$$

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

$$224) 6m^2 + 12m - 205 = 5$$

$$\{-7, 5\}$$

$$225) 4r^2 + 24r - 100 = 8$$

$$\{-9, 3\}$$

$$226) 6x^2 + 84x + 294 = 6$$

$$\{-6, -8\}$$

$$227) 7n^2 + 49n + 80 = 10$$

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

$$228) 7b^2 - 112b + 413 = -7$$

$$\{10, 6\}$$

$$229) 9v^2 + 108v + 286 = -2$$

$$\{-8, -4\}$$

$$230) 9x^2 - 18x - 214 = 2$$

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

$$231) 10n^2 - 160n + 637 = 7$$

$$\{7, 9\}$$

$$232) 10a^2 + 110a + 98 = -2$$

$$\{-10, -1\}$$

$$233) 3k^2 - 9k - 164 = -2$$

$$\{-6, 9\}$$

$$234) 4x^2 + 16x - 190 = -10$$

$$\{5, -9\}$$

$$235) 4x^2 - 44x + 62 = -10$$

$$\{9, 2\}$$

$$236) 6n^2 + 108n + 496 = 10$$

$$\{-9\}$$

$$237) 6m^2 - 30m + 46 = 10$$

$$\{3, 2\}$$

$$238) 7p^2 - 84p + 255 = 10$$

$$\{7, 5\}$$

$$239) 9x^2 - 36x - 530 = 10$$

$$\{10, -6\}$$

$$240) 9n^2 - 54n + 54 = 9$$

$$\{1, 5\}$$

$$241) 10m^2 + 10m - 191 = 9$$

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

$$242) 2r^2 - 10r - 39 = 9$$

$$\{8, -3\}$$

$$243) 3x^2 - 21x - 14 = 10$$

$$\{-1, 8\}$$

$$244) 10n^2 - 90n + 183 = 3$$

$$\{3, 6\}$$

$$245) 5b^2 - 70b + 238 = -2$$

$$\{6, 8\}$$

$$246) 6v^2 + 84v + 243 = 3$$

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

$$247) 8x^2 - 24x + 21 = 5$$

$$\{2, 1\}$$

$$248) 8x^2 + 40x - 285 = 3$$

$$\{4, -9\}$$

$$249) 8a^2 + 104a + 344 = 8$$

$$\{-6, -7\}$$

$$250) 9k^2 - 18k - 81 = -9$$

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

$$251) 9p^2 + 45p - 64 = -10$$

$$\{1, -6\}$$

$$252) 2x^2 + 8x - 74 = -10$$

$$\{-8, 4\}$$

$$253) 3n^2 - 6n - 115 = -10$$

$$\{-5, 7\}$$

$$254) 3m^2 + 12m + 19 = 10$$

$$\{-1, -3\}$$

$$255) 5r^2 + 15r - 340 = 10$$

$$\{-10, 7\}$$

$$256) 5x^2 + 50x + 115 = 10$$

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

$$257) 10n^2 - 60n - 276 = -6$$

$$\{-3, 9\}$$

$$258) 7b^2 - 126b + 569 = 9$$

$$\{8, 10\}$$

$$259) 7v^2 - 7v - 628 = 2$$

$$\{-9, 10\}$$

$$260) 9x^2 + 135x + 457 = 7$$

$$\{-5, -10\}$$

$$261) 10n^2 + 20n - 490 = -10$$

$$\{6, -8\}$$

$$262) 2a^2 - 26a + 55 = -5$$

$$\{10, 3\}$$

$$263) 2k^2 + 30k + 118 = 6$$

$$\{-8, -7\}$$

$$264) 7x^2 - 28x - 231 = -7$$

$$\{8, -4\}$$

$$265) 4x^2 - 56x + 200 = 8$$

$$\{8, 6\}$$

$$266) 5n^2 + 70n + 192 = -8$$

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

$$267) 7m^2 - 63m + 94 = -4$$

$$\{2, 7\}$$

$$268) 7p^2 - 98p + 306 = -9$$

$$\{5, 9\}$$

$$269) 8x^2 - 64x - 82 = -10$$

$$\{9, -1\}$$

$$270) 2n^2 + 4n - 32 = -2$$

$$\{3, -5\}$$

$$271) 10b^2 - 20b - 40 = -10$$

$$\{3, -1\}$$

$$272) 10r^2 - 90r + 130 = -10$$

$$\{7, 2\}$$

$$273) 2x^2 + 22x + 58 = 10$$

$$\{-3, -8\}$$

$$274) 4n^2 - 12n + 18 = 10$$

$$\{1, 2\}$$

$$275) 4b^2 + 12b - 150 = 10$$

$$\{5, -8\}$$

$$276) 5v^2 + 50v + 127 = 2$$

$$\{-5\}$$

$$277) 6x^2 - 24x - 39 = -9$$

$$\{-1, 5\}$$

$$278) 7x^2 + 21x - 62 = 8$$

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

$$279) 7a^2 + 63a + 89 = -9$$

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

$$280) 9k^2 - 54k - 247 = -4$$

$$\{-3, 9\}$$

$$281) 4p^2 + 4p - 2 = 6$$

$$\{-2, 1\}$$

$$282) 5x^2 + 5x - 442 = 8$$

$$\{9, -10\}$$

$$283) 3n^2 + 45n + 171 = 9$$

$$\{-6, -9\}$$

$$284) 3m^2 + 3m - 13 = -7$$

$$\{-2, 1\}$$

$$285) 2r^2 - 10r + 16 = 4$$

$$\{2, 3\}$$

$$286) 5x^2 + 30x - 89 = -9$$

$$\{-8, 2\}$$

$$287) 7n^2 + 21n - 121 = 5$$

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

$$288) 7b^2 + 49b + 32 = -10$$

$$\{-1, -6\}$$

$$289) 7v^2 + 35v - 360 = -10$$

$$\{-10, 5\}$$

$$290) 9x^2 + 117x + 368 = -10$$

$$\{-7, -6\}$$

$$291) 9n^2 + 54n + 71 = -10$$

$$\{-3\}$$

$$292) 10a^2 - 170a + 730 = 10$$

$$\{9, 8\}$$

$$293) 3k^2 + 36k + 83 = 2$$

$$\{-9, -3\}$$

$$294) 3x^2 - 9x - 118 = 2$$

$$\{-5, 8\}$$

$$295) 4x^2 + 16x - 248 = -8$$

$$\{6, -10\}$$

$$296) 4n^2 - 20n - 204 = -4$$

$$\{10, -5\}$$

$$297) 6m^2 + 102m + 423 = 3$$

$$\{-7, -10\}$$

$$298) 6p^2 + 18p - 163 = 5$$

$$\{4, -7\}$$

$$299) 8x^2 - 96x + 261 = 5$$

$$\{8, 4\}$$

$$300) 9n^2 + 153n + 636 = 6$$

$$\{-10, -7\}$$



$$301) 9b^2 + 72 = 54b$$

$$\{2, 4\}$$

$$302) 2x^2 - 10x = 72$$

$$\{9, -4\}$$

$$303) 2r^2 + 84 = 26r$$

$$\{6, 7\}$$

$$304) 6b^2 - 324 = 18b$$

$$\{9, -6\}$$

$$305) 9n^2 - 108n = -243$$

$$\{9, 3\}$$

$$306) 5v^2 - 35 = 30v$$

$$\{7, -1\}$$

$$307) 6x^2 - 48x = 120$$

$$\{-2, 10\}$$

$$308) 2x^2 + 4x = 6$$

$$\{1, -3\}$$

$$309) 8a^2 - 120a = -400$$

$$\{5, 10\}$$

$$310) 8k^2 = -320 - 104k$$

$$\{-5, -8\}$$

$$311) 9p^2 - 18p = 27$$

$$\{-1, 3\}$$

$$312) 10x^2 - 240 = -50x$$

$$\{3, -8\}$$

$$313) 2n^2 + 24n = -70$$

$$\{-7, -5\}$$

$$314) 4r^2 - 8r = 96$$

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

$$315) 3m^2 - 54 = 9m$$

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

$$316) 5x^2 + 15x = 270$$

$$\{-9, 6\}$$

$$317) 5n^2 - 15n = 270$$

$$\{-6, 9\}$$

$$318) 7b^2 + 14 = -21b$$

$$\{-2, -1\}$$

$$319) 7v^2 - 133v = -630$$

$$\{10, 9\}$$

$$320) 8x^2 = -64 - 72x$$

$$\{-8, -1\}$$

$$321) 10n^2 - 80 = -20n$$

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

$$322) 10a^2 - 630 = -20a$$

$$\{7, -9\}$$

$$323) 2k^2 = -16k + 40$$

$$\{-10, 2\}$$

$$324) 4x^2 + 4x = 120$$

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

$$325) 2x^2 = -28x - 96$$

$$\{-6, -8\}$$

$$326) 4n^2 + 180 = 56n$$

$$\{9, 5\}$$

$$327) 5m^2 + 70m = -225$$

$$\{-9, -5\}$$

$$328) 8p^2 = 160 - 64p$$

$$\{2, -10\}$$

$$329) 7x^2 - 105x = -392$$

$$\{7, 8\}$$

$$330) 9b^2 = -81 + 90b$$

$$\{1, 9\}$$

$$331) 8n^2 = 64n + 160$$

$$\{10, -2\}$$

$$332) 10r^2 + 60r = 400$$

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

$$333) 2x^2 - 18x = -16$$

$$\{8, 1\}$$

$$334) 3n^2 = -27 - 30n$$

$$\{-1, -9\}$$

$$335) 4a^2 - 12a = -8$$

$$\{2, 1\}$$

$$336) 4v^2 = -96 + 40v$$

$$\{6, 4\}$$

$$337) 6x^2 + 144 = -60x$$

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

$$338) 7x^2 = -378 - 105x$$

$$\{-6, -9\}$$

$$339) 7a^2 + 14a = 168$$

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

$$340) 8k^2 + 144 = -72k$$

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

$$341) 9p^2 - 45p = 126$$

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

$$342) 10x^2 = -20x + 30$$

$$\{1, -3\}$$

$$343) 3n^2 = -18n + 48$$

$$\{-8, 2\}$$

$$344) 3m^2 = 18m + 120$$

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

$$345) 4x^2 + 400 = -80x$$

$$\{-10\}$$

$$346) 6n^2 + 90n = -336$$

$$\{-7, -8\}$$

$$347) 8b^2 - 48 = 8b$$

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

$$348) 2v^2 = -24v - 64$$

$$\{-8, -4\}$$

$$349) 8x^2 + 40x = 288$$

$$\{-9, 4\}$$

$$350) 9n^2 - 9n = 270$$

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

$$351) 9a^2 + 72 = -54a$$

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

$$352) 2k^2 = -140 + 34k$$

$$\{10, 7\}$$

$$353) 3x^2 + 96 = -36x$$

$$\{-8, -4\}$$

$$354) 3x^2 = -12 - 15x$$

$$\{-4, -1\}$$

$$355) 5n^2 = -400 + 90n$$

$$\{8, 10\}$$

$$356) 5m^2 + 55m = -50$$

$$\{-10, -1\}$$

$$357) 6p^2 - 24p = 360$$

$$\{-6, 10\}$$

$$358) 6x^2 = -18x + 240$$

$$\{5, -8\}$$

$$359) 8n^2 + 144 = 88n$$

$$\{9, 2\}$$

$$360) 9b^2 + 144b = -576$$

$$\{-8\}$$

$$361) 9r^2 - 135 = -18r$$

$$\{3, -5\}$$

$$362) 2x^2 = 24x - 70$$

$$\{7, 5\}$$

$$363) 2n^2 - 10n = 100$$

$$\{10, -5\}$$

$$364) 3a^2 + 18 = 21a$$

$$\{1, 6\}$$

$$365) 4v^2 = -180 + 56v$$

$$\{5, 9\}$$

$$366) 5x^2 - 30x = 80$$

$$\{8, -2\}$$

$$367) 6x^2 - 48x = 54$$

$$\{-1, 9\}$$

$$368) 7a^2 = 7a + 14$$

$$\{2, -1\}$$

$$369) 8k^2 = 56k - 48$$

$$\{6, 1\}$$

$$370) 8p^2 + 96p = -216$$

$$\{-3, -9\}$$

$$371) 5x^2 + 35 = -40x$$

$$\{-7, -1\}$$

$$372) 10n^2 = 360 - 50n$$

$$\{4, -9\}$$

$$373) 2m^2 + 72 = -24m$$

$$\{-6\}$$

$$374) 4r^2 = 40 + 12r$$

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

$$375) 4x^2 - 48 = -16x$$

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

$$376) 5n^2 = -120 - 55n$$

$$\{-8, -3\}$$

$$377) 5b^2 - 160 = 20b$$

$$\{-4, 8\}$$

$$378) 7v^2 = -21 - 28v$$

$$\{-1, -3\}$$

$$379) 8x^2 - 640 = -16x$$

$$\{-10, 8\}$$

$$380) 8n^2 = -136n - 560$$

$$\{-7, -10\}$$



$$381) 10a^2 = -20a + 30$$

$$\{-3, 1\}$$

$$382) 10k^2 = -10k + 900$$

$$\{9, -10\}$$

$$383) 2p^2 = 18 - 16p$$

$$\{-9, 1\}$$

$$384) 3x^2 = -3x + 60$$

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

$$385) 4n^2 = -4n + 168$$

$$\{6, -7\}$$

$$386) 5m^2 = 70m - 200$$

$$\{10, 4\}$$

$$387) 6p^2 = -252 - 78p$$

$$\{-7, -6\}$$

$$388) 7n^2 - 105n = -392$$

$$\{8, 7\}$$

$$389) 9x^2 = -18 - 27x$$

$$\{-1, -2\}$$

$$390) 9b^2 + 270 = -117b$$

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

$$391) 9r^2 = 18 + 9r$$

$$\{2, -1\}$$

$$392) 10x^2 = -600 + 160x$$

$$\{6, 10\}$$

$$393) 5n^2 + 450 = 95n$$

$$\{9, 10\}$$

$$394) 7a^2 = -28a + 84$$

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

$$395) 4v^2 = 96 - 20v$$

$$\{3, -8\}$$

$$396) 4x^2 + 84 = 40x$$

$$\{7, 3\}$$

$$397) 6x^2 + 60x = -96$$

$$\{-2, -8\}$$

$$398) 6n^2 = 24n - 18$$

$$\{1, 3\}$$

$$399) 7k^2 + 210 = 77k$$

$$\{5, 6\}$$

$$400) 9p^2 = -180 - 81p$$

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

**Solve level 3 complexity equations:**

401)  $x^2 + 10x + 21 = 0$

$\{-3, -7\}$

402)  $n^2 + 3n + 2 = 0$

$\{-1, -2\}$

403)  $r^2 + 16r + 55 = 0$

$\{-5, -11\}$

404)  $m^2 - 3m - 70 = 0$

$\{-7, 10\}$

405)  $x^2 + 10x + 24 = 0$

$\{-4, -6\}$

406)  $n^2 + 3n - 54 = 0$

$\{-9, 6\}$

407)  $v^2 + 16v + 60 = 0$

$\{-6, -10\}$

408)  $x^2 + 16x + 55 = 0$

$\{-11, -5\}$

409)  $n^2 + 4n - 60 = 0$

$\{-10, 6\}$

410)  $a^2 - 3a - 88 = 0$

$\{-8, 11\}$

$$411) k^2 + 16k + 63 = 0$$

$$\{-7, -9\}$$

$$412) p^2 + 17p + 60 = 0$$

$$\{-12, -5\}$$

$$413) x^2 + 3x - 70 = 0$$

$$\{-10, 7\}$$

$$414) n^2 - 3n - 108 = 0$$

$$\{-9, 12\}$$

$$415) m^2 - 3m - 88 = 0$$

$$\{11, -8\}$$

$$416) p^2 - 8p - 48 = 0$$

$$\{12, -4\}$$

$$417) x^2 + 3x - 88 = 0$$

$$\{-11, 8\}$$

$$418) n^2 + 3n - 108 = 0$$

$$\{9, -12\}$$

$$419) b^2 - 2b - 80 = 0$$

$$\{10, -8\}$$

$$420) x^2 - 15x + 54 = 0$$

$$\{6, 9\}$$

$$421) r^2 - 9r - 36 = 0$$

$$\{12, -3\}$$

$$422) n^2 + 4n - 96 = 0$$

$$\{8, -12\}$$

$$423) a^2 - 3a - 70 = 0$$

$$\{10, -7\}$$

$$424) v^2 - 9v + 20 = 0$$

$$\{4, 5\}$$

$$425) n^2 + 4n - 12 = 0$$

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

$$426) x^2 + 4x - 77 = 0$$

$$\{7, -11\}$$

$$427) p^2 - 15p + 50 = 0$$

$$\{5, 10\}$$

$$428) x^2 + 6x - 16 = 0$$

$$\{2, -8\}$$

$$429) n^2 + 4n - 5 = 0$$

$$\{1, -5\}$$

$$430) m^2 - 9m + 18 = 0$$

$$\{3, 6\}$$

$$431) r^2 - 9r - 22 = 0$$

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

$$432) x^2 + 10x + 9 = 0$$

$$\{-1, -9\}$$

$$433) b^2 - 2b - 35 = 0$$

$$\{-5, 7\}$$

$$434) v^2 - 9v - 36 = 0$$

$$\{-3, 12\}$$

$$435) n^2 + 4n - 21 = 0$$

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

$$436) k^2 - 8k - 48 = 0$$

$$\{-4, 12\}$$

$$437) a^2 - 3a - 40 = 0$$

$$\{-5, 8\}$$

$$438) p^2 + 17p + 72 = 0$$

$$\{-9, -8\}$$

$$439) x^2 + 4x - 32 = 0$$

$$\{-8, 4\}$$

$$440) n^2 - 2n - 48 = 0$$

$$\{-6, 8\}$$

$$441) m^2 + 23m + 132 = 0$$

$$\{-11, -12\}$$

$$442) r^2 + 17r + 70 = 0$$

$$\{-10, -7\}$$

$$443) b^2 + 23b + 132 = 0$$

$$\{-12, -11\}$$

$$444) n^2 - 20n + 99 = 0$$

$$\{11, 9\}$$

$$445) r^2 + 16r + 60 = 0$$

$$\{-10, -6\}$$

$$446) x^2 - 14x + 45 = 0$$

$$\{9, 5\}$$

$$447) n^2 - 21n + 110 = 0$$

$$\{11, 10\}$$

$$448) a^2 - 2a - 120 = 0$$

$$\{12, -10\}$$

$$449) v^2 - 8v + 7 = 0$$

$$\{7, 1\}$$

$$450) x^2 - 15x + 54 = 0$$

$$\{9, 6\}$$

$$451) x^2 - 21x + 110 = 0$$

$\{10, 11\}$

$$452) n^2 + 5n - 50 = 0$$

$\{5, -10\}$

$$453) k^2 - 8k + 12 = 0$$

$\{6, 2\}$

$$454) p^2 - 15p + 56 = 0$$

$\{8, 7\}$

$$455) x^2 - 14x + 33 = 0$$

$\{3, 11\}$

$$456) n^2 + 5n - 36 = 0$$

$\{4, -9\}$

$$457) m^2 - 9m + 18 = 0$$

$\{6, 3\}$

$$458) r^2 - 18r + 81 = 0$$

$\{9\}$

$$459) x^2 - 14x + 24 = 0$$

$\{2, 12\}$

$$460) n^2 + 4n - 32 = 0$$

$\{4, -8\}$



$$461) b^2 - 2b - 8 = 0$$

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

$$462) v^2 + 19v + 84 = 0$$

$$\{-12, -7\}$$

$$463) x^2 + 11x - 12 = 0$$

$$\{1, -12\}$$

$$464) n^2 - 3n - 28 = 0$$

$$\{-4, 7\}$$

$$465) a^2 - a - 12 = 0$$

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

$$466) k^2 - 8k - 9 = 0$$

$$\{-1, 9\}$$

$$467) p^2 + 17p + 66 = 0$$

$$\{-6, -11\}$$

$$468) x^2 + 13x + 40 = 0$$

$$\{-5, -8\}$$

$$469) n^2 - 2n - 15 = 0$$

$$\{-3, 5\}$$

$$470) m^2 - 8m - 20 = 0$$

$$\{-2, 10\}$$

$$471) x^2 + 4x - 5 = 0$$

$$\{-5, 1\}$$

$$472) r^2 + 18r + 77 = 0$$

$$\{-7, -11\}$$

$$473) n^2 - 2n - 24 = 0$$

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

$$474) b^2 - b - 90 = 0$$

$$\{-9, 10\}$$

$$475) x^2 + 4x - 12 = 0$$

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

$$476) r^2 + 18r + 80 = 0$$

$$\{-8, -10\}$$

$$477) n^2 + 4n - 77 = 0$$

$$\{-11, 7\}$$

$$478) a^2 - a - 110 = 0$$

$$\{-10, 11\}$$

$$479) v^2 + 10v + 16 = 0$$

$$\{-8, -2\}$$

$$480) x^2 - 14x + 33 = 0$$

$$\{11, 3\}$$

$$481) x^2 + 5x - 84 = 0$$

$$\{-12, 7\}$$

$$482) n^2 - 2n - 120 = 0$$

$$\{-10, 12\}$$

$$483) k^2 - 8k - 9 = 0$$

$$\{9, -1\}$$

$$484) x^2 - 20x + 96 = 0$$

$$\{12, 8\}$$

$$485) n^2 + 5n - 84 = 0$$

$$\{7, -12\}$$

$$486) r^2 - 14r + 40 = 0$$

$$\{10, 4\}$$

$$487) x^2 - 14x + 45 = 0$$

$$\{5, 9\}$$

$$488) n^2 + 6n - 72 = 0$$

$$\{6, -12\}$$

$$489) b^2 - 16b + 64 = 0$$

$$\{8\}$$

$$490) v^2 - 8v + 15 = 0$$

$$\{3, 5\}$$

$$491) x^2 - 13x + 36 = 0$$

$$\{4, 9\}$$

$$492) n^2 + 5n - 66 = 0$$

$$\{6, -11\}$$

$$493) a^2 + 14a + 48 = 0$$

$$\{-6, -8\}$$

$$494) k^2 - 8k + 12 = 0$$

$$\{2, 6\}$$

$$495) p^2 - 13p + 30 = 0$$

$$\{3, 10\}$$

$$496) x^2 + 5x + 6 = 0$$

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

$$497) n^2 + 6n + 5 = 0$$

$$\{-1, -5\}$$

$$498) m^2 - 7m + 6 = 0$$

$$\{1, 6\}$$

$$499) r^2 - 7r - 44 = 0$$

$$\{-4, 11\}$$

$$500) x^2 + 5x + 6 = 0$$

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

$$501) b^2 - b - 32 = 10$$

$$\{-6, 7\}$$

$$502) n^2 - n - 7 = -5$$

$$\{-1, 2\}$$

$$503) x^2 + 5x + 2 = -4$$

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

$$504) v^2 - 7v - 54 = 6$$

$$\{-5, 12\}$$

$$505) a^2 - a - 49 = 7$$

$$\{-7, 8\}$$

$$506) n^2 + 6n - 17 = 10$$

$$\{-9, 3\}$$

$$507) x^2 + 12x + 22 = 11$$

$$\{-11, -1\}$$

$$508) x^2 + 5x - 28 = 8$$

$$\{-9, 4\}$$

$$509) n^2 - n - 75 = -3$$

$$\{-8, 9\}$$

$$510) k^2 - 7k - 48 = 12$$

$$\{12, -5\}$$

$$511) n^2 - 19n + 78 = -12$$

$$\{10, 9\}$$

$$512) x^2 + 5x - 52 = -2$$

$$\{-10, 5\}$$

$$513) r^2 + 11r - 15 = -3$$

$$\{-12, 1\}$$

$$514) m^2 - 7m - 42 = 2$$

$$\{11, -4\}$$

$$515) n^2 - 19n + 93 = 3$$

$$\{9, 10\}$$

$$516) x^2 - 13x + 28 = -12$$

$$\{8, 5\}$$

$$517) b^2 - 8b - 24 = 9$$

$$\{11, -3\}$$

$$518) v^2 - 6v - 6 = -11$$

$$\{5, 1\}$$

$$519) x^2 - 13x + 46 = 4$$

$$\{7, 6\}$$

$$520) n^2 - 20n + 89 = -10$$

$$\{9, 11\}$$

$$521) a^2 - 12a + 22 = 2$$

$$\{10, 2\}$$

$$522) k^2 - 7k + 14 = 4$$

$$\{5, 2\}$$

$$523) p^2 - 13p + 37 = -5$$

$$\{6, 7\}$$

$$524) x^2 + 5x - 15 = -9$$

$$\{1, -6\}$$

$$525) n^2 + 2n - 23 = -8$$

$$\{-5, 3\}$$

$$526) m^2 - 7m + 14 = 2$$

$$\{4, 3\}$$

$$527) x^2 + x - 19 = 11$$

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

$$528) r^2 - 14r + 39 = -9$$

$$\{6, 8\}$$

$$529) n^2 - n - 7 = -5$$

$$\{2, -1\}$$

$$530) b^2 - 7b + 4 = -8$$

$$\{3, 4\}$$

$$531) v^2 - 6v - 9 = 7$$

$$\{-2, 8\}$$

$$532) x^2 - 13x + 28 = -8$$

$$\{9, 4\}$$

$$533) n^2 - 8n + 11 = 4$$

$$\{1, 7\}$$

$$534) a^2 - 2a - 73 = -10$$

$$\{-7, 9\}$$

$$535) v^2 - 6v - 30 = -3$$

$$\{-3, 9\}$$

$$536) x^2 + 5x - 3 = -7$$

$$\{-1, -4\}$$

$$537) x^2 + 14x + 56 = 8$$

$$\{-6, -8\}$$

$$538) n^2 - 11n + 30 = 12$$

$$\{2, 9\}$$

$$539) p^2 + 13p + 45 = 9$$

$$\{-9, -4\}$$

$$540) k^2 + 11k + 18 = -6$$

$$\{-3, -8\}$$



$$541) x^2 + 6x - 9 = -2$$

$$\{-7, 1\}$$

$$542) n^2 - n - 35 = -5$$

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

$$543) m^2 + 18m + 86 = 9$$

$$\{-11, -7\}$$

$$544) r^2 + 12r + 29 = 2$$

$$\{-9, -3\}$$

$$545) x^2 + 6x - 27 = -11$$

$$\{-8, 2\}$$

$$546) n^2 - 19n + 94 = 10$$

$$\{12, 7\}$$

$$547) v^2 + 12v + 9 = -11$$

$$\{-10, -2\}$$

$$548) x^2 - 13x + 41 = 11$$

$$\{10, 3\}$$

$$549) x^2 - 18x + 72 = -5$$

$$\{11, 7\}$$

$$550) a^2 + 18a + 62 = -10$$

$$\{-12, -6\}$$

$$551) k^2 - 7k + 4 = 12$$

$$\{8, -1\}$$

$$552) p^2 - 12p + 19 = -8$$

$$\{9, 3\}$$

$$553) x^2 - 19x + 79 = -9$$

$$\{11, 8\}$$

$$554) n^2 + 4n - 93 = 3$$

$$\{-12, 8\}$$

$$555) m^2 - 6m - 5 = 2$$

$$\{7, -1\}$$

$$556) r^2 - 12r + 23 = -9$$

$$\{8, 4\}$$

$$557) x^2 + 6x - 39 = -12$$

$$\{3, -9\}$$

$$558) n^2 - n - 17 = 3$$

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

$$559) v^2 - 6v - 6 = -11$$

$$\{1, 5\}$$

$$560) x^2 + 6x - 13 = 3$$

$$\{2, -8\}$$

$$561) n^2 - 9n + 17 = 3$$

$$\{7, 2\}$$

$$562) a^2 + 19a + 93 = 5$$

$$\{-8, -11\}$$

$$563) x^2 + 7x + 20 = 8$$

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

$$564) n^2 + 16n + 46 = -9$$

$$\{-5, -11\}$$

$$565) p^2 + 13p + 51 = 9$$

$$\{-6, -7\}$$

$$566) x^2 + 6x + 14 = 6$$

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

$$567) n^2 + n - 11 = -5$$

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

$$568) r^2 + 12r + 42 = 6$$

$$\{-6\}$$

$$569) x^2 + 6x + 1 = -4$$

$$\{-5, -1\}$$

$$570) n^2 + 7n - 20 = 10$$

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

$$571) b^2 + 19b + 97 = 7$$

$$\{-9, -10\}$$

$$572) v^2 + 12v + 32 = -3$$

$$\{-7, -5\}$$

$$573) x^2 + 13x + 23 = 11$$

$$\{-12, -1\}$$

$$574) x^2 + 7x - 36 = 8$$

$$\{-11, 4\}$$

$$575) a^2 + 18a + 78 = -3$$

$$\{-9\}$$

$$576) k^2 - 5k - 38 = 12$$

$$\{10, -5\}$$

$$577) p^2 - 11p - 7 = 5$$

$$\{12, -1\}$$

$$578) x^2 + 6x - 57 = -2$$

$$\{-11, 5\}$$

$$579) n^2 + n - 84 = -12$$

$$\{8, -9\}$$

$$580) m^2 - 6m - 38 = 2$$

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

$$581) r^2 - 12r + 23 = 12$$

$$\{11, 1\}$$

$$582) x^2 - 18x + 60 = -12$$

$$\{6, 12\}$$

$$583) n^2 + n - 53 = 3$$

$$\{7, -8\}$$

$$584) b^2 - 6b - 35 = -8$$

$$\{9, -3\}$$

$$585) x^2 + 7x - 56 = 4$$

$$\{5, -12\}$$

$$586) n^2 + 5n - 48 = -12$$

$$\{4, -9\}$$

$$587) a^2 - 6a - 26 = -10$$

$$\{8, -2\}$$

$$588) k^2 - 5k + 10 = 4$$

$$\{3, 2\}$$

$$589) x^2 + 6x - 46 = 9$$

$$\{5, -11\}$$

$$590) x^2 - 17x + 74 = 4$$

$$\{10, 7\}$$

$$591) n^2 + n + 3 = 5$$

$$\{1, -2\}$$

$$592) k^2 - 5k + 1 = -5$$

$$\{2, 3\}$$

$$593) p^2 + 6p - 49 = -9$$

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

$$594) x^2 + 7x + 12 = 6$$

$$\{-1, -6\}$$

$$595) m^2 - 13m + 14 = -8$$

$$\{2, 11\}$$

$$596) r^2 + 14r + 46 = 6$$

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

$$597) x^2 + 7x + 6 = -4$$

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

$$598) n^2 - 6n + 1 = 8$$

$$\{-1, 7\}$$

$$599) b^2 - 5b - 59 = 7$$

$$\{-6, 11\}$$

$$600) v^2 + 13v + 33 = -3$$

$$\{-4, -9\}$$

$$601) x^2 = -7x + 8$$

$$\{-8, 1\}$$

$$602) x^2 + 7x = -12$$

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

$$603) a^2 - 72 = 6a$$

$$\{-6, 12\}$$

$$604) k^2 + 13k = -40$$

$$\{-5, -8\}$$

$$605) p^2 = -13p - 30$$

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

$$606) x^2 = -8x + 9$$

$$\{-9, 1\}$$

$$607) n^2 + 19n = -84$$

$$\{-7, -12\}$$

$$608) r^2 + 14r = -33$$

$$\{-11, -3\}$$

$$609) m^2 = -84 - 19m$$

$$\{-12, -7\}$$

$$610) x^2 + 7x = 18$$

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

$$611) n^2 - 110 = -n$$

$$\{10, -11\}$$

$$612) b^2 = 5b + 84$$

$$\{12, -7\}$$

$$613) v^2 + 24 = -14v$$

$$\{-12, -2\}$$

$$614) x^2 - 18x = -80$$

$$\{8, 10\}$$

$$615) a^2 - 5a = 66$$

$$\{11, -6\}$$

$$616) k^2 - 6 = 5k$$

$$\{6, -1\}$$

$$617) x^2 - 18x = -77$$

$$\{7, 11\}$$

$$618) x^2 = -x + 90$$

$$\{9, -10\}$$

$$619) n^2 = 20 - n$$

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

$$620) m^2 = 3m + 10$$

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



$$621) x^2 = 9 - 8x$$

$$\{1, -9\}$$

$$622) n^2 + n = 12$$

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

$$623) m^2 + 40 = 13m$$

$$\{5, 8\}$$

$$624) r^2 = 12 + 11r$$

$$\{-1, 12\}$$

$$625) x^2 + 7x = 8$$

$$\{1, -8\}$$

$$626) n^2 + 2n = 8$$

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

$$627) b^2 = 5b + 24$$

$$\{-3, 8\}$$

$$628) v^2 = -12 - 13v$$

$$\{-1, -12\}$$

$$629) x^2 = -30 + 11x$$

$$\{5, 6\}$$

$$630) x^2 + 15 = -8x$$

$$\{-5, -3\}$$

$$631) a^2 - 36 = 5a$$

$$\{-4, 9\}$$

$$632) k^2 + 14k = -24$$

$$\{-2, -12\}$$

$$633) p^2 + 49 = -14p$$

$$\{-7\}$$

$$634) x^2 + 8x = -12$$

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

$$635) n^2 - 6n = 40$$

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

$$636) m^2 + 110 = -21m$$

$$\{-10, -11\}$$

$$637) r^2 + 14r = -48$$

$$\{-8, -6\}$$

$$638) x^2 + 6 = -7x$$

$$\{-6, -1\}$$

$$639) n^2 + 2n = 120$$

$$\{-12, 10\}$$

$$640) b^2 + 100 = -20b$$

$$\{-10\}$$

$$641) v^2 = -14v - 45$$

$$\{-9, -5\}$$

$$642) x^2 = 42 - x$$

$$\{-7, 6\}$$

$$643) n^2 + 132 = 23n$$

$$\{12, 11\}$$

$$644) a^2 + 99 = -20a$$

$$\{-11, -9\}$$

$$645) x^2 + 70 = 17x$$

$$\{10, 7\}$$

$$646) x^2 = 24x - 144$$

$$\{12\}$$

$$647) n^2 + 21n = -108$$

$$\{-12, -9\}$$

$$648) m^2 - 4m = 32$$

$$\{8, -4\}$$

$$649) p^2 - 18p = -80$$

$$\{10, 8\}$$

$$650) x^2 = -x + 132$$

$$\{11, -12\}$$

$$651) n^2 = 48 - 2n$$

$$\{6, -8\}$$

$$652) m^2 = 21 + 4m$$

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

$$653) r^2 + 81 = 18r$$

$$\{9\}$$

$$654) x^2 + 8x = 48$$

$$\{4, -12\}$$

$$655) n^2 = 35 - 2n$$

$$\{5, -7\}$$

$$656) b^2 - 12b = -35$$

$$\{7, 5\}$$

$$657) v^2 = 10v - 9$$

$$\{1, 9\}$$

$$658) x^2 - 33 = -8x$$

$$\{3, -11\}$$

$$659) x^2 = -x + 30$$

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

$$660) a^2 = 4a + 5$$

$$\{-1, 5\}$$

$$661) k^2 = -10 + 11k$$

$$\{1, 10\}$$

$$662) p^2 = -8p + 20$$

$$\{2, -10\}$$

$$663) x^2 + 9x = -18$$

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

$$664) n^2 = 5n + 6$$

$$\{-1, 6\}$$

$$665) m^2 - 72 = -m$$

$$\{-9, 8\}$$

$$666) r^2 = -45 - 14r$$

$$\{-5, -9\}$$

$$667) x^2 = -9x - 20$$

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

$$668) n^2 - 5n = 14$$

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

$$669) b^2 - 4b = 96$$

$$\{-8, 12\}$$

$$670) v^2 + 15v = -54$$

$$\{-6, -9\}$$

$$671) x^2 + 16 = -8x$$

$$\{-4\}$$

$$672) n^2 - 80 = -2n$$

$$\{-10, 8\}$$

$$673) k^2 = -56 - 15k$$

$$\{-7, -8\}$$

$$674) x^2 - 48 = -8x$$

$$\{-12, 4\}$$

$$675) n^2 + 108 = -21n$$

$$\{-9, -12\}$$

$$676) m^2 - 4m = 77$$

$$\{11, -7\}$$

$$677) p^2 - 16p = -48$$

$$\{12, 4\}$$

$$678) x^2 - 99 = -2x$$

$$\{-11, 9\}$$

$$679) n^2 = 99 - 2n$$

$$\{9, -11\}$$

$$680) b^2 - 3b = 70$$

$$\{10, -7\}$$

$$681) r^2 + 60 = 17r$$

$$\{12, 5\}$$

$$682) x^2 = -60 + 16x$$

$$\{6, 10\}$$

$$683) n^2 = 80 - 2n$$

$$\{8, -10\}$$

$$684) b^2 - 60 = 4b$$

$$\{10, -6\}$$

$$685) v^2 + 24 = 10v$$

$$\{4, 6\}$$

$$686) x^2 + 66 = 17x$$

$$\{6, 11\}$$

$$687) x^2 = -3x + 70$$

$$\{7, -10\}$$

$$688) a^2 = 4a - 4$$

$$\{2\}$$

$$689) k^2 - 11k = -28$$

$$\{4, 7\}$$

$$690) p^2 = -55 + 16p$$

$$\{5, 11\}$$

$$691) x^2 - x = 132$$

$$\{-11, 12\}$$

$$692) n^2 - 4n = -3$$

$$\{1, 3\}$$

$$693) m^2 + 21 = 10m$$

$$\{3, 7\}$$

$$694) r^2 - 24 = 10r$$

$$\{-2, 12\}$$

$$695) x^2 + 8 = -9x$$

$$\{-1, -8\}$$

$$696) b^2 = 40 + 3b$$

$$\{-5, 8\}$$

$$697) v^2 + 15v = -36$$

$$\{-3, -12\}$$

$$698) x^2 + 14 = -9x$$

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

$$699) n^2 - 28 = -3n$$

$$\{-7, 4\}$$

$$700) a^2 - 4a = 45$$

$$\{-5, 9\}$$



**Solve level 4 complexity equations:**

701)  $6k^2 + 10k + 30 = 5k^2 + 9$

$\{-3, -7\}$

702)  $6n^2 + 4n - 34 = 5n^2 + 5n - 4$

$\{-5, 6\}$

703)  $p^2 + 11p = -18$

$\{-9, -2\}$

704)  $12x^2 + 5x = 11x^2 + 14$

$\{-7, 2\}$

705)  $n^2 - 2n = 35$

$\{-5, 7\}$

706)  $-7m^2 + 10m + 56 = -7m - 10 - 8m^2$

$\{-11, -6\}$

707)  $x^2 - 6x - 24 = -11x$

$\{-8, 3\}$

708)  $n^2 - 2n = 120$

$\{12, -10\}$

709)  $v^2 + 5 = -5 - 11v$

$\{-10, -1\}$

710)  $x^2 = -40 + 14x$

$\{10, 4\}$

$$711) n^2 - 99 = 2n$$

$$\{11, -9\}$$

$$712) -6a^2 + 60 = -7a^2 - 17a$$

$$\{-12, -5\}$$

$$713) k^2 + k - 66 = 6$$

$$\{8, -9\}$$

$$714) p^2 - 14p + 36 = -9$$

$$\{9, 5\}$$

$$715) -9n^2 - 4n - 11 = 9 - 10n^2 - 3n$$

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

$$716) m^2 - 8m + 14 = 7$$

$$\{7, 1\}$$

$$717) p^2 - 15p + 40 = -2p$$

$$\{8, 5\}$$

$$718) -6x^2 - 3x = 80 - 7x^2 - x$$

$$\{10, -8\}$$

$$719) n^2 + 5n - 15 = 7n$$

$$\{5, -3\}$$

$$720) -b^2 - 7b - 1 = -7 - 2b^2$$

$$\{6, 1\}$$

$$721) r^2 + 3r - 96 = -r$$

$$\{8, -12\}$$

$$722) x^2 - 3 = 11 - 5x$$

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

$$723) n^2 - n = 12$$

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

$$724) a^2 + 12 = 8a$$

$$\{6, 2\}$$

$$725) -3v^2 + 7v = -4v^2 - 10$$

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

$$726) x^2 - 7x - 12 = -11x$$

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

$$727) x^2 - x - 4 = 2$$

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

$$728) -8n^2 - n - 4 = -9n^2 + 2$$

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

$$729) k^2 + k - 11 = 8k - 3$$

$$\{-1, 8\}$$

$$730) -9p^2 - 6 = -5p - 10p^2$$

$$\{1, -6\}$$

$$731) x^2 + 4x = -x - 4$$

$$\{-4, -1\}$$

$$732) 7n^2 + 2n - 12 = 6n^2 + 3n$$

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

$$733) m^2 + 10 = -11m$$

$$\{-1, -10\}$$

$$734) r^2 + 30 = -11r$$

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

$$735) b^2 + 18b = -81$$

$$\{-9\}$$

$$736) n^2 - 8n - 36 = -3$$

$$\{-3, 11\}$$

$$737) v^2 + 11v + 38 = 10$$

$$\{-7, -4\}$$

$$738) 10x^2 + 14x + 56 = 9x^2 + 11$$

$$\{-5, -9\}$$

$$739) n^2 - 8n - 124 = -7n + 8$$

$$\{-11, 12\}$$

$$740) a^2 + 17a + 67 = -5$$

$$\{-9, -8\}$$

$$741) 3k^2 + 8k + 24 = 2k^2 - 3k$$

$$\{-8, -3\}$$

$$742) p^2 - 14p + 4 = -p - 8$$

$$\{12, 1\}$$

$$743) x^2 + 23x + 140 = 8$$

$$\{-11, -12\}$$

$$744) n^2 + 70 = -17n$$

$$\{-10, -7\}$$

$$745) m^2 - 18m - 30 = -11m$$

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

$$746) -10r^2 - 23r + 22 = -10r - 11r^2$$

$$\{11, 2\}$$

$$747) x^2 + 11x + 141 = 9 - 12x$$

$$\{-12, -11\}$$

$$748) n^2 - 77 = -4n$$

$$\{7, -11\}$$

$$749) b^2 + 2b - 29 = 9b - 11$$

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

$$750) r^2 = -33 + 14r$$

$$\{11, 3\}$$

$$751) x^2 - 55 = -6x$$

$$\{5, -11\}$$

$$752) -4n^2 - n - 39 = -5n^2 + 3$$

$$\{7, -6\}$$

$$753) a^2 - 8 = 7a$$

$$\{8, -1\}$$

$$754) -9v^2 - 14v + 30 = -10v^2 - v$$

$$\{3, 10\}$$

$$755) -5x^2 + 5x - 50 = -6x^2$$

$$\{5, -10\}$$

$$756) x^2 - x - 36 = -6$$

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

$$757) 12n^2 - 12n - 30 = 11n^2 - 8n - 9$$

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

$$758) 11k^2 + 22 = 10k^2 + 13k$$

$$\{2, 11\}$$

$$759) p^2 + 9p - 36 = 4p$$

$$\{4, -9\}$$

$$760) x^2 + 7x = 2x - 4$$

$$\{-1, -4\}$$

$$761) n^2 - 2n - 15 = 9$$

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

$$762) -11m^2 = -24 + 14m - 12m^2$$

$$\{2, 12\}$$

$$763) 11r^2 + 12r + 32 = 10r^2$$

$$\{-4, -8\}$$

$$764) x^2 + 6x + 9 = 1$$

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

$$765) 6n^2 - 25n + 101 = -5n + 1 + 5n^2$$

$$\{10\}$$

$$766) b^2 + 72 = -18b$$

$$\{-6, -12\}$$

$$767) x^2 + 6x + 10 = 1$$

$$\{-3\}$$

$$768) n^2 + n - 72 = 2n$$

$$\{-8, 9\}$$

$$769) k^2 + 20k = -35 + 8k$$

$$\{-5, -7\}$$

$$770) p^2 + 23p + 20 = 11p$$

$$\{-10, -2\}$$

$$771) x^2 - 5x = -4$$

$$\{4, 1\}$$

$$772) 7n^2 + 18n + 77 = 6n^2$$

$$\{-7, -11\}$$

$$773) -4m^2 + 72 = -5m^2 - 18m$$

$$\{-12, -6\}$$

$$774) -6r^2 + 7r + 11 = -5r - 7r^2$$

$$\{-11, -1\}$$

$$775) x^2 + 6x - 90 = 7x$$

$$\{-9, 10\}$$

$$776) n^2 - 56 = -n$$

$$\{-8, 7\}$$

$$777) b^2 - 7b - 66 = -6$$

$$\{12, -5\}$$

$$778) 4r^2 + 12 = -13r + 3r^2$$

$$\{-12, -1\}$$

$$779) -9x^2 - x - 98 = -10x^2 + 12$$

$$\{-10, 11\}$$

$$780) n^2 - 90 = n$$

$$\{10, -9\}$$



$$781) a^2 - 6a - 44 = 11$$

$$\{11, -5\}$$

$$782) v^2 - 84 = -5v$$

$$\{-12, 7\}$$

$$783) -10x^2 - 13x + 83 = -1 - 11x^2 + 6x$$

$$\{7, 12\}$$

$$784) x^2 - 16x + 36 = -12$$

$$\{12, 4\}$$

$$785) n^2 - 14n - 44 = -7n$$

$$\{11, -4\}$$

$$786) k^2 = -40 + 13k$$

$$\{5, 8\}$$

$$787) -8n^2 + 12n + 20 = -9n^2$$

$$\{-2, -10\}$$

$$788) -2m^2 - 14m + 53 = 8 - 3m^2$$

$$\{5, 9\}$$

$$789) r^2 + 11r = 5r + 72$$

$$\{6, -12\}$$

$$790) -3x^2 + 16x - 7 = -4x^2 + 10x$$

$$\{1, -7\}$$

$$791) 11n^2 + 2n - 120 = 10n^2$$

$$\{10, -12\}$$

$$792) b^2 - 13b = -36$$

$$\{4, 9\}$$

$$793) -10v^2 + 12v = -11v^2 - 11$$

$$\{-1, -11\}$$

$$794) x^2 + 8x - 37 = 11$$

$$\{4, -12\}$$

$$795) -6n^2 - 7n + 20 = 10 - 7n^2$$

$$\{2, 5\}$$

$$796) a^2 + 2a - 40 = 8a$$

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

$$797) p^2 + 22p + 14 = 12p - 10$$

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

$$798) x^2 - 15x - 18 = -12x$$

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

$$799) 5n^2 - 7n - 44 = 4n^2$$

$$\{-4, 11\}$$

$$800) m^2 + 24m + 30 = 11m$$

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

$$801) 49r^2 - 595r + 84 = 0$$

$$\left\{ \frac{1}{7}, 12 \right\}$$

$$802) 13n^2 - 9n - 4 = 0$$

$$\left\{ -\frac{4}{13}, 1 \right\}$$

$$803) 39x^2 - 145x - 104 = 0$$

$$\left\{ -\frac{8}{13}, \frac{13}{3} \right\}$$

$$804) 13b^2 - 118b + 9 = 0$$

$$\left\{ \frac{1}{13}, 9 \right\}$$

$$805) 6v^2 - 31v - 77 = 0$$

$$\left\{ -\frac{11}{6}, 7 \right\}$$

$$806) 25x^2 - 15x - 130 = 0$$

$$\left\{ \frac{13}{5}, -2 \right\}$$

$$807) 10n^2 - 36n - 144 = 0$$

$$\left\{ -\frac{12}{5}, 6 \right\}$$

$$808) 143a^2 + 2093a + 1274 = 0$$

$$\left\{ -\frac{7}{11}, -14 \right\}$$

$$809) 13v^2 - 175v + 78 = 0$$

$$\left\{ \frac{6}{13}, 13 \right\}$$

$$810) 126x^2 - 909x + 189 = 0$$

$$\left\{ \frac{3}{14}, 7 \right\}$$

$$811) 39x^2 + 132x + 45 = 0$$

$$\left\{-\frac{5}{13}, -3\right\}$$

$$812) 22n^2 - 19n - 21 = 0$$

$$\left\{-\frac{7}{11}, \frac{3}{2}\right\}$$

$$813) 35k^2 + 16k - 12 = 0$$

$$\left\{\frac{2}{5}, -\frac{6}{7}\right\}$$

$$814) 13p^2 - 126p - 40 = 0$$

$$\left\{-\frac{4}{13}, 10\right\}$$

$$815) 13x^2 - 42x - 40 = 0$$

$$\left\{-\frac{10}{13}, 4\right\}$$

$$816) 24n^2 + 152n - 320 = 0$$

$$\left\{\frac{5}{3}, -8\right\}$$

$$817) 108m^2 - 1035m + 567 = 0$$

$$\left\{\frac{7}{12}, 9\right\}$$

$$818) 5r^2 + 77r + 156 = 0$$

$$\left\{-\frac{12}{5}, -13\right\}$$

$$819) 99x^2 + 369x + 216 = 0$$

$$\left\{-\frac{8}{11}, -3\right\}$$

$$820) 15n^2 - 62n + 56 = 0$$

$$\left\{\frac{4}{3}, \frac{14}{5}\right\}$$

$$821) 11b^2 - 122b + 11 = 0$$

$$\left\{ \frac{1}{11}, 11 \right\}$$

$$822) 11v^2 - 71v - 42 = 0$$

$$\left\{ -\frac{6}{11}, 7 \right\}$$

$$823) 7x^2 - 27x + 26 = 0$$

$$\left\{ \frac{13}{7}, 2 \right\}$$

$$824) 15n^2 - 53n + 44 = 0$$

$$\left\{ \frac{11}{5}, \frac{4}{3} \right\}$$

$$825) 5a^2 + 4a - 9 = 0$$

$$\left\{ -\frac{9}{5}, 1 \right\}$$

$$826) 117k^2 + 1296k + 99 = 0$$

$$\left\{ -\frac{1}{13}, -11 \right\}$$

$$827) 121p^2 - 814p + 528 = 0$$

$$\left\{ \frac{8}{11}, 6 \right\}$$

$$828) 5x^2 + 43x - 132 = 0$$

$$\left\{ \frac{12}{5}, -11 \right\}$$

$$829) 13n^2 - 113n + 72 = 0$$

$$\left\{ \frac{9}{13}, 8 \right\}$$

$$830) 11m^2 - 58m - 48 = 0$$

$$\left\{ -\frac{8}{11}, 6 \right\}$$

$$831) 11r^2 + 157r + 42 = 0$$

$$\left\{-\frac{3}{11}, -14\right\}$$

$$832) 4x^2 - 7x - 15 = 0$$

$$\left\{-\frac{5}{4}, 3\right\}$$

$$833) 12n^2 + 7n - 5 = 0$$

$$\left\{\frac{5}{12}, -1\right\}$$

$$834) 35b^2 - 18b - 72 = 0$$

$$\left\{\frac{12}{7}, -\frac{6}{5}\right\}$$

$$835) 7v^2 + 61v + 84 = 0$$

$$\left\{-\frac{12}{7}, -7\right\}$$

$$836) 3x^2 - 37x - 26 = 0$$

$$\left\{-\frac{2}{3}, 13\right\}$$

$$837) 13n^2 - 23n + 10 = 0$$

$$\left\{\frac{10}{13}, 1\right\}$$

$$838) 24a^2 + 200a - 400 = 0$$

$$\left\{\frac{5}{3}, -10\right\}$$

$$839) 4v^2 + 51v + 36 = 0$$

$$\left\{-\frac{3}{4}, -12\right\}$$

$$840) 15x^2 - 66x - 273 = 0$$

$$\left\{-\frac{13}{5}, 7\right\}$$

$$841) 11n^2 + 59n + 20 = 0$$

$$\left\{-\frac{4}{11}, -5\right\}$$

$$842) 198x^2 + 1158x + 1092 = 0$$

$$\left\{-\frac{13}{11}, -\frac{14}{3}\right\}$$

$$843) 13k^2 + 152k + 99 = 0$$

$$\left\{-\frac{9}{13}, -11\right\}$$

$$844) 3p^2 + 16p - 140 = 0$$

$$\left\{\frac{14}{3}, -10\right\}$$

$$845) 65x^2 + 364x - 1248 = 0$$

$$\left\{\frac{12}{5}, -8\right\}$$

$$846) 9n^2 + 12n - 5 = 0$$

$$\left\{\frac{1}{3}, -\frac{5}{3}\right\}$$

$$847) 10m^2 + 9m - 22 = 0$$

$$\left\{\frac{11}{10}, -2\right\}$$

$$848) 13r^2 + 118r + 9 = 0$$

$$\left\{-\frac{1}{13}, -9\right\}$$

$$849) 3x^2 - x - 4 = 0$$

$$\left\{\frac{4}{3}, -1\right\}$$

$$850) 88n^2 - 385n + 132 = 0$$

$$\left\{\frac{3}{8}, 4\right\}$$

$$851) 132b^2 - 1236b - 840 = 0$$

$$\left\{-\frac{7}{11}, 10\right\}$$

$$852) 110v^2 + 530v + 360 = 0$$

$$\left\{-\frac{9}{11}, -4\right\}$$

$$853) 88x^2 - 408x - 160 = 0$$

$$\left\{-\frac{4}{11}, 5\right\}$$

$$854) 55x^2 - 120x + 65 = 0$$

$$\left\{\frac{13}{11}, 1\right\}$$

$$855) 2a^2 + 7a - 49 = 0$$

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

$$856) 25k^2 - 85k + 42 = 0$$

$$\left\{\frac{3}{5}, \frac{14}{5}\right\}$$

$$857) 49p^2 - 504p - 1008 = 0$$

$$\left\{-\frac{12}{7}, 12\right\}$$

$$858) 13x^2 - 134x - 99 = 0$$

$$\left\{-\frac{9}{13}, 11\right\}$$

$$859) 11n^2 + 168n + 196 = 0$$

$$\left\{-\frac{14}{11}, -14\right\}$$

$$860) 3m^2 - 31m + 36 = 0$$

$$\left\{\frac{4}{3}, 9\right\}$$



$$861) 715r^2 + 920r + 240 = 0$$

$$\left\{-\frac{12}{13}, -\frac{4}{11}\right\}$$

$$862) 3x^2 + 23x + 42 = 0$$

$$\left\{-\frac{14}{3}, -3\right\}$$

$$863) 21n^2 + 37n - 28 = 0$$

$$\left\{-\frac{7}{3}, \frac{4}{7}\right\}$$

$$864) 11b^2 - 149b - 70 = 0$$

$$\left\{-\frac{5}{11}, 14\right\}$$

$$865) 154x^2 - 1260x + 1274 = 0$$

$$\left\{\frac{13}{11}, 7\right\}$$

$$866) 39v^2 + 86v + 35 = 0$$

$$\left\{-\frac{5}{3}, -\frac{7}{13}\right\}$$

$$867) 5n^2 - 76n + 143 = 0$$

$$\left\{\frac{11}{5}, 13\right\}$$

$$868) 121a^2 - 187a + 52 = 0$$

$$\left\{\frac{4}{11}, \frac{13}{11}\right\}$$

$$869) 13k^2 - 5k - 8 = 0$$

$$\left\{-\frac{8}{13}, 1\right\}$$

$$870) 91x^2 + 81x - 70 = 0$$

$$\left\{-\frac{10}{7}, \frac{7}{13}\right\}$$

$$871) 18n^2 - 12n - 96 = 0$$

$$\left\{ \frac{8}{3}, -2 \right\}$$

$$872) 91x^2 - 173x + 72 = 0$$

$$\left\{ \frac{8}{13}, \frac{9}{7} \right\}$$

$$873) 25k^2 - 25k - 24 = 0$$

$$\left\{ \frac{8}{5}, -\frac{3}{5} \right\}$$

$$874) 7p^2 + 108p + 140 = 0$$

$$\left\{ -\frac{10}{7}, -14 \right\}$$

$$875) 12n^2 - 18n - 30 = 0$$

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

$$876) 56x^2 + 368x - 168 = 0$$

$$\left\{ \frac{3}{7}, -7 \right\}$$

$$877) 7m^2 - 39m - 18 = 0$$

$$\left\{ -\frac{3}{7}, 6 \right\}$$

$$878) 33r^2 + 62r - 35 = 0$$

$$\left\{ -\frac{7}{3}, \frac{5}{11} \right\}$$

$$879) 5x^2 + 3x - 26 = 0$$

$$\left\{ -\frac{13}{5}, 2 \right\}$$

$$880) 11n^2 - 101n - 90 = 0$$

$$\left\{ -\frac{9}{11}, 10 \right\}$$

$$881) 13b^2 + 49b + 30 = 0$$

$$\left\{-\frac{10}{13}, -3\right\}$$

$$882) 90v^2 + 48v - 840 = 0$$

$$\left\{\frac{14}{5}, -\frac{10}{3}\right\}$$

$$883) 605x^2 + 220x - 585 = 0$$

$$\left\{\frac{9}{11}, -\frac{13}{11}\right\}$$

$$884) 20x^2 - 44x - 280 = 0$$

$$\left\{-\frac{14}{5}, 5\right\}$$

$$885) 2a^2 - 13a - 24 = 0$$

$$\left\{-\frac{3}{2}, 8\right\}$$

$$886) 104k^2 + 368k - 192 = 0$$

$$\left\{\frac{6}{13}, -4\right\}$$

$$887) 2p^2 - 27p - 14 = 0$$

$$\left\{-\frac{1}{2}, 14\right\}$$

$$888) 70x^2 - 966x + 728 = 0$$

$$\left\{\frac{4}{5}, 13\right\}$$

$$889) 10n^2 - 62n + 88 = 0$$

$$\left\{\frac{11}{5}, 4\right\}$$

$$890) 91m^2 - 155m + 66 = 0$$

$$\left\{\frac{11}{13}, \frac{6}{7}\right\}$$

$$891) 55r^2 + 485r + 360 = 0$$

$$\left\{-\frac{9}{11}, -8\right\}$$

$$892) 39x^2 - 33x - 6 = 0$$

$$\left\{-\frac{2}{13}, 1\right\}$$

$$893) 169n^2 - 182n + 48 = 0$$

$$\left\{\frac{8}{13}, \frac{6}{13}\right\}$$

$$894) 3b^2 + 26b - 77 = 0$$

$$\left\{\frac{7}{3}, -11\right\}$$

$$895) 39v^2 + 62v + 24 = 0$$

$$\left\{-\frac{2}{3}, -\frac{12}{13}\right\}$$

$$896) 49x^2 - 217x - 462 = 0$$

$$\left\{-\frac{11}{7}, 6\right\}$$

$$897) 40n^2 + 96n - 256 = 0$$

$$\left\{\frac{8}{5}, -4\right\}$$

$$898) 132a^2 - 1332a + 120 = 0$$

$$\left\{\frac{1}{11}, 10\right\}$$

$$899) 2k^2 - 9k + 9 = 0$$

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

$$900) 5x^2 + 23x - 42 = 0$$

$$\left\{\frac{7}{5}, -6\right\}$$

$$901) 5x^2 + 49x + 107 = 9$$

$$\left\{-\frac{14}{5}, -7\right\}$$

$$902) 132k^2 - 1260k - 606 = -6$$

$$\left\{-\frac{5}{11}, 10\right\}$$

$$903) 13n^2 + 137n - 55 = 11$$

$$\left\{\frac{6}{13}, -11\right\}$$

$$904) 14p^2 - 73p - 14 = 8$$

$$\left\{\frac{11}{2}, -\frac{2}{7}\right\}$$

$$905) 294x^2 - 504x - 68 = 10$$

$$\left\{-\frac{1}{7}, \frac{13}{7}\right\}$$

$$906) 3n^2 - 32n + 66 = -11$$

$$\left\{\frac{11}{3}, 7\right\}$$

$$907) 7m^2 - 22m - 54 = 11$$

$$\left\{-\frac{13}{7}, 5\right\}$$

$$908) 91r^2 + 351r + 227 = -7$$

$$\left\{-\frac{6}{7}, -3\right\}$$

$$909) 13x^2 - 134x + 45 = 5$$

$$\left\{\frac{4}{13}, 10\right\}$$

$$910) 18n^2 - 279n + 365 = -13$$

$$\left\{\frac{3}{2}, 14\right\}$$

$$911) 5b^2 + 77b + 88 = -10$$

$$\left\{-\frac{7}{5}, -14\right\}$$

$$912) 539v^2 + 182v - 10 = 11$$

$$\left\{\frac{1}{11}, -\frac{3}{7}\right\}$$

$$913) 11x^2 - 111x - 116 = -6$$

$$\left\{-\frac{10}{11}, 11\right\}$$

$$914) 14x^2 + 19x - 6 = -11$$

$$\left\{-\frac{5}{14}, -1\right\}$$

$$915) 2a^2 + a + 2 = 3$$

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

$$916) 390k^2 + 696k - 574 = 2$$

$$\left\{\frac{8}{13}, -\frac{12}{5}\right\}$$

$$917) 6p^2 + 5p = 11$$

$$\left\{-\frac{11}{6}, 1\right\}$$

$$918) 6x^2 - 31x - 36 = -6$$

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

$$919) 7n^2 - 60n - 15 = 12$$

$$\left\{-\frac{3}{7}, 9\right\}$$

$$920) 20m^2 - 95m - 162 = -12$$

$$\left\{-\frac{5}{4}, 6\right\}$$

$$921) 13r^2 + 63r + 3 = 13$$

$$\left\{ \frac{2}{13}, -5 \right\}$$

$$922) 65n^2 - 962n + 2178 = -6$$

$$\left\{ \frac{14}{5}, 12 \right\}$$

$$923) 143x^2 + 136x - 36 = 3$$

$$\left\{ \frac{3}{13}, -\frac{13}{11} \right\}$$

$$924) 4b^2 - 9b - 24 = 4$$

$$\left\{ -\frac{7}{4}, 4 \right\}$$

$$925) 11v^2 + 83v + 30 = -12$$

$$\left\{ -\frac{6}{11}, -7 \right\}$$

$$926) 2x^2 - 19x = -9$$

$$\left\{ \frac{1}{2}, 9 \right\}$$

$$927) 770n^2 - 1910n + 1114 = 14$$

$$\left\{ \frac{11}{7}, \frac{10}{11} \right\}$$

$$928) 70a^2 + 110a - 307 = -7$$

$$\left\{ \frac{10}{7}, -3 \right\}$$

$$929) 16k^2 - 60k + 47 = -9$$

$$\left\{ \frac{7}{4}, 2 \right\}$$

$$930) 3x^2 - 19x + 23 = -3$$

$$\left\{ \frac{13}{3}, 2 \right\}$$

$$931) 3x^2 - 16x - 37 = -2$$

$$\left\{-\frac{5}{3}, 7\right\}$$

$$932) 22n^2 - 85n + 26 = -2$$

$$\left\{\frac{4}{11}, \frac{7}{2}\right\}$$

$$933) 5m^2 - 72m + 94 = 3$$

$$\left\{\frac{7}{5}, 13\right\}$$

$$934) 728p^2 + 1504p + 773 = 5$$

$$\left\{-\frac{8}{7}, -\frac{12}{13}\right\}$$

$$935) 5x^2 + 12x - 55 = 10$$

$$\left\{\frac{13}{5}, -5\right\}$$

$$936) 8n^2 - 100n + 304 = -4$$

$$\left\{\frac{11}{2}, 7\right\}$$

$$937) 7m^2 - 17m - 41 = 3$$

$$\left\{-\frac{11}{7}, 4\right\}$$

$$938) 2r^2 - 3r + 4 = 9$$

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

$$939) 66x^2 + 84x - 101 = -5$$

$$\left\{\frac{8}{11}, -2\right\}$$

$$940) 88n^2 - 1133n + 932 = 8$$

$$\left\{\frac{7}{8}, 12\right\}$$



$$941) 1210b^2 + 1320b - 294 = -14$$

$$\left\{-\frac{14}{11}, \frac{2}{11}\right\}$$

$$942) 156v^2 - 744v - 170 = 10$$

$$\left\{-\frac{3}{13}, 5\right\}$$

$$943) 5x^2 - 23x - 4 = 6$$

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

$$944) 10x^2 - 21x - 56 = -7$$

$$\left\{-\frac{7}{5}, \frac{7}{2}\right\}$$

$$945) 5a^2 - 28a + 31 = -8$$

$$\left\{\frac{13}{5}, 3\right\}$$

$$946) 5k^2 - 14k - 5 = -14$$

$$\left\{\frac{9}{5}, 1\right\}$$

$$947) 11p^2 + 117p + 64 = -6$$

$$\left\{-\frac{7}{11}, -10\right\}$$

$$948) 52x^2 + 122x + 57 = -9$$

$$\left\{-\frac{3}{2}, -\frac{11}{13}\right\}$$

$$949) 2n^2 - 23n + 42 = -3$$

$$\left\{\frac{5}{2}, 9\right\}$$

$$950) 5m^2 + 51m - 121 = -13$$

$$\left\{\frac{9}{5}, -12\right\}$$

$$951) 35r^2 - 8r - 18 = -2$$

$$\left\{-\frac{4}{7}, \frac{4}{5}\right\}$$

$$952) 7x^2 - 39x - 68 = 2$$

$$\left\{-\frac{10}{7}, 7\right\}$$

$$953) 13n^2 - 178n - 52 = 4$$

$$\left\{-\frac{4}{13}, 14\right\}$$

$$954) 13b^2 - 45b + 22 = 4$$

$$\left\{\frac{6}{13}, 3\right\}$$

$$955) 91v^2 + 99v - 133 = -3$$

$$\left\{\frac{10}{13}, -\frac{13}{7}\right\}$$

$$956) 195x^2 - 627x + 307 = -5$$

$$\left\{\frac{13}{5}, \frac{8}{13}\right\}$$

$$957) 11n^2 + 100n + 105 = 9$$

$$\left\{-\frac{12}{11}, -8\right\}$$

$$958) 7a^2 - 22a - 5 = -8$$

$$\left\{\frac{1}{7}, 3\right\}$$

$$959) 234k^2 - 726k + 411 = -9$$

$$\left\{\frac{10}{13}, \frac{7}{3}\right\}$$

$$960) 11x^2 - 118x - 37 = -4$$

$$\left\{-\frac{3}{11}, 11\right\}$$

$$961) 5x^2 + 36x - 134 = 6$$

$$\left\{ \frac{14}{5}, -10 \right\}$$

$$962) 3n^2 + 49n + 116 = -14$$

$$\left\{ -\frac{10}{3}, -13 \right\}$$

$$963) 30m^2 + 370m + 1046 = 6$$

$$\left\{ -\frac{13}{3}, -8 \right\}$$

$$964) 13p^2 + 56p + 8 = -8$$

$$\left\{ -\frac{4}{13}, -4 \right\}$$

$$965) 143x^2 - 159x + 53 = 13$$

$$\left\{ \frac{5}{13}, \frac{8}{11} \right\}$$

$$966) 585n^2 - 1332n + 761 = 5$$

$$\left\{ \frac{14}{13}, \frac{6}{5} \right\}$$

$$967) 3m^2 + 11m - 73 = -3$$

$$\left\{ \frac{10}{3}, -7 \right\}$$

$$968) 3r^2 + r - 12 = 12$$

$$\left\{ \frac{8}{3}, -3 \right\}$$

$$969) 154x^2 - 1428x - 1115 = 5$$

$$\left\{ -\frac{8}{11}, 10 \right\}$$

$$970) 11n^2 + 10n - 22 = 2$$

$$\left\{ \frac{12}{11}, -2 \right\}$$

$$971) 11b^2 + 123b + 15 = -7$$

$$\left\{-\frac{2}{11}, -11\right\}$$

$$972) 5v^2 - 43v + 60 = 4$$

$$\left\{\frac{8}{5}, 7\right\}$$

$$973) 28x^2 + 82x + 60 = 8$$

$$\left\{-\frac{13}{14}, -2\right\}$$

$$974) 14x^2 + 64x + 70 = 4$$

$$\left\{-\frac{11}{7}, -3\right\}$$

$$975) 77a^2 - 120a + 19 = -8$$

$$\left\{\frac{9}{7}, \frac{3}{11}\right\}$$

$$976) 156k^2 + 1236k - 1504 = 8$$

$$\left\{\frac{14}{13}, -9\right\}$$

$$977) 616p^2 + 24p - 436 = -4$$

$$\left\{-\frac{6}{7}, \frac{9}{11}\right\}$$

$$978) 13x^2 + 35x - 18 = -6$$

$$\left\{\frac{4}{13}, -3\right\}$$

$$979) 7n^2 - 64n - 156 = -13$$

$$\left\{-\frac{13}{7}, 11\right\}$$

$$980) 11m^2 + 76m - 110 = -14$$

$$\left\{\frac{12}{11}, -8\right\}$$

$$981) 14r^2 + 7r - 15 = 6$$

$$\left\{-\frac{3}{2}, 1\right\}$$

$$982) 121x^2 + 22x - 177 = -9$$

$$\left\{\frac{12}{11}, -\frac{14}{11}\right\}$$

$$983) 5n^2 + 47n - 96 = -8$$

$$\left\{\frac{8}{5}, -11\right\}$$

$$984) 5b^2 - 3b - 32 = -6$$

$$\left\{\frac{13}{5}, -2\right\}$$

$$985) 7v^2 - 26v + 5 = 13$$

$$\left\{-\frac{2}{7}, 4\right\}$$

$$986) 13x^2 + 187x + 67 = -3$$

$$\left\{-\frac{5}{13}, -14\right\}$$

$$987) 13n^2 - 34n - 4 = 11$$

$$\left\{-\frac{5}{13}, 3\right\}$$

$$988) 15a^2 - 65a + 54 = -6$$

$$\left\{\frac{4}{3}, 3\right\}$$

$$989) 11k^2 - 35k - 49 = -13$$

$$\left\{-\frac{9}{11}, 4\right\}$$

$$990) 36x^2 + 171x + 177 = -12$$

$$\left\{-\frac{7}{4}, -3\right\}$$

$$991) 7x^2 - 6x - 12 = 4$$

$$\left\{-\frac{8}{7}, 2\right\}$$

$$992) 273n^2 - 1078n + 571 = 11$$

$$\left\{\frac{10}{3}, \frac{8}{13}\right\}$$

$$993) 5m^2 - 49m - 2 = 8$$

$$\left\{-\frac{1}{5}, 10\right\}$$

$$994) 60p^2 - 36p - 90 = 6$$

$$\left\{\frac{8}{5}, -1\right\}$$

$$995) 56x^2 + 126x - 390 = 2$$

$$\left\{\frac{7}{4}, -4\right\}$$

$$996) 5n^2 + 77n + 168 = 12$$

$$\left\{-\frac{12}{5}, -13\right\}$$

$$997) 91b^2 + 109b + 26 = -4$$

$$\left\{-\frac{3}{7}, -\frac{10}{13}\right\}$$

$$998) 13r^2 - 51r - 17 = -13$$

$$\left\{-\frac{1}{13}, 4\right\}$$

$$999) 3x^2 - 46x + 44 = -12$$

$$\left\{\frac{4}{3}, 14\right\}$$

$$1000) 5n^2 - 64n + 42 = -6$$

$$\left\{\frac{4}{5}, 12\right\}$$

$$1001) 63b^2 - 180b = -117$$

$$\left\{ \frac{13}{7}, 1 \right\}$$

$$1002) 12v^2 - 54v = 66$$

$$\left\{ \frac{11}{2}, -1 \right\}$$

$$1003) 98x^2 + 770x = 1008$$

$$\left\{ \frac{8}{7}, -9 \right\}$$

$$1004) 143x^2 - 93x = 8$$

$$\left\{ -\frac{1}{13}, \frac{8}{11} \right\}$$

$$1005) 33a^2 = 216 - 273a$$

$$\left\{ \frac{8}{11}, -9 \right\}$$

$$1006) 22p^2 - 123p = -11$$

$$\left\{ \frac{11}{2}, \frac{1}{11} \right\}$$

$$1007) 30k^2 = -288k + 864$$

$$\left\{ \frac{12}{5}, -12 \right\}$$

$$1008) 154x^2 - 658x = 560$$

$$\left\{ -\frac{8}{11}, 5 \right\}$$

$$1009) 8n^2 - 9 = -n$$

$$\left\{ -\frac{9}{8}, 1 \right\}$$

$$1010) 3m^2 - 20 = -11m$$

$$\left\{ \frac{4}{3}, -5 \right\}$$

$$1011) 3r^2 = -24 + 17r$$

$$\left\{ \frac{8}{3}, 3 \right\}$$

$$1012) 84x^2 + 1386 = -910x$$

$$\left\{ -\frac{11}{6}, -9 \right\}$$

$$1013) 77n^2 = -792 - 715n$$

$$\left\{ -\frac{9}{7}, -8 \right\}$$

$$1014) 20b^2 + 25 = -60b$$

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

$$1015) 10v^2 - 540 = -75v$$

$$\left\{ \frac{9}{2}, -12 \right\}$$

$$1016) 7x^2 + 8x = 39$$

$$\left\{ \frac{13}{7}, -3 \right\}$$

$$1017) 143n^2 - 200n = -48$$

$$\left\{ \frac{4}{13}, \frac{12}{11} \right\}$$

$$1018) 5a^2 = 91 + 22a$$

$$\left\{ -\frac{13}{5}, 7 \right\}$$

$$1019) 15k^2 = 130 + 11k$$

$$\left\{ -\frac{13}{5}, \frac{10}{3} \right\}$$

$$1020) 121x^2 - 99x = -14$$

$$\left\{ \frac{2}{11}, \frac{7}{11} \right\}$$



$$1021) 13x^2 = 43x - 12$$

$$\left\{ \frac{4}{13}, 3 \right\}$$

$$1022) 3n^2 = -104 + 47n$$

$$\left\{ \frac{8}{3}, 13 \right\}$$

$$1023) 7m^2 - 96 = -44m$$

$$\left\{ \frac{12}{7}, -8 \right\}$$

$$1024) 7p^2 - 4 = -27p$$

$$\left\{ \frac{1}{7}, -4 \right\}$$

$$1025) 52x^2 - 552x = 220$$

$$\left\{ -\frac{5}{13}, 11 \right\}$$

$$1026) 42n^2 - 210 = -264n$$

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

$$1027) 143b^2 = 1482b - 520$$

$$\left\{ \frac{4}{11}, 10 \right\}$$

$$1028) 5r^2 - 51r = -88$$

$$\left\{ \frac{11}{5}, 8 \right\}$$

$$1029) 11x^2 - 97x = 130$$

$$\left\{ -\frac{13}{11}, 10 \right\}$$

$$1030) 11n^2 + 36 = -53n$$

$$\left\{ -\frac{9}{11}, -4 \right\}$$

$$1031) 108b^2 + 984b = 960$$

$$\left\{ \frac{8}{9}, -10 \right\}$$

$$1032) 3v^2 + 31v = -78$$

$$\left\{ -\frac{13}{3}, -6 \right\}$$

$$1033) 3x^2 - 49 = -14x$$

$$\left\{ \frac{7}{3}, -7 \right\}$$

$$1034) 2x^2 + 40 = -21x$$

$$\left\{ -\frac{5}{2}, -8 \right\}$$

$$1035) 7a^2 - 120 = 74a$$

$$\left\{ -\frac{10}{7}, 12 \right\}$$

$$1036) 39k^2 + 160k = -100$$

$$\left\{ -\frac{10}{13}, -\frac{10}{3} \right\}$$

$$1037) 13p^2 - 181p = 14$$

$$\left\{ -\frac{1}{13}, 14 \right\}$$

$$1038) 110x^2 = -198 + 319x$$

$$\left\{ \frac{9}{10}, 2 \right\}$$

$$1039) 45n^2 - 810 = 369n$$

$$\left\{ -\frac{9}{5}, 10 \right\}$$

$$1040) 20m^2 + 168 = -116m$$

$$\left\{ -\frac{14}{5}, -3 \right\}$$

$$1041) 169r^2 - 1313r = -910$$

$$\left\{ \frac{10}{13}, 7 \right\}$$

$$1042) 11x^2 = 150x + 56$$

$$\left\{ -\frac{4}{11}, 14 \right\}$$

$$1043) 7n^2 + 48 = -62n$$

$$\left\{ -\frac{6}{7}, -8 \right\}$$

$$1044) 24b^2 + 224 = 152b$$

$$\left\{ \frac{7}{3}, 4 \right\}$$

$$1045) 42v^2 - 618v = -936$$

$$\left\{ \frac{12}{7}, 13 \right\}$$

$$1046) 52x^2 - 732x = -56$$

$$\left\{ \frac{1}{13}, 14 \right\}$$

$$1047) 132a^2 + 1320 = 1572a$$

$$\left\{ \frac{10}{11}, 11 \right\}$$

$$1048) 13n^2 = 6 + 7n$$

$$\left\{ -\frac{6}{13}, 1 \right\}$$

$$1049) 3k^2 - 7 = 20k$$

$$\left\{ -\frac{1}{3}, 7 \right\}$$

$$1050) 11x^2 - 96 = 124x$$

$$\left\{ -\frac{8}{11}, 12 \right\}$$

$$1051) 11x^2 - 56 = -69x$$

$$\left\{ \frac{8}{11}, -7 \right\}$$

$$1052) 121n^2 + 1804n = -1540$$

$$\left\{ -\frac{10}{11}, -14 \right\}$$

$$1053) 260m^2 + 48m = 20$$

$$\left\{ -\frac{5}{13}, \frac{1}{5} \right\}$$

$$1054) 88p^2 + 1000p = -352$$

$$\left\{ -\frac{4}{11}, -11 \right\}$$

$$1055) 5x^2 + 108 = 69x$$

$$\left\{ \frac{9}{5}, 12 \right\}$$

$$1056) 7n^2 - 77 = -38n$$

$$\left\{ \frac{11}{7}, -7 \right\}$$

$$1057) 91b^2 - 338 = 13b$$

$$\left\{ -\frac{13}{7}, 2 \right\}$$

$$1058) 33r^2 = 140r - 100$$

$$\left\{ \frac{10}{11}, \frac{10}{3} \right\}$$

$$1059) 39x^2 + 396x = -60$$

$$\left\{ -\frac{2}{13}, -10 \right\}$$

$$1060) 35n^2 - 66 = 13n$$

$$\left\{ \frac{11}{7}, -\frac{6}{5} \right\}$$

$$1061) 10a^2 + 103a = 77$$

$$\left\{ \frac{7}{10}, -11 \right\}$$

$$1062) 70v^2 = 325 + 285v$$

$$\left\{ -\frac{13}{14}, 5 \right\}$$

$$1063) 6x^2 + 24 = -25x$$

$$\left\{ -\frac{3}{2}, -\frac{8}{3} \right\}$$

$$1064) 11x^2 - 30 = 61x$$

$$\left\{ -\frac{5}{11}, 6 \right\}$$

$$1065) 117a^2 + 1820 = 1352a$$

$$\left\{ \frac{14}{9}, 10 \right\}$$

$$1066) 91k^2 - 112k = -21$$

$$\left\{ \frac{3}{13}, 1 \right\}$$

$$1067) 7p^2 - 32p = -33$$

$$\left\{ \frac{11}{7}, 3 \right\}$$

$$1068) 147x^2 - 252x = -33$$

$$\left\{ \frac{11}{7}, \frac{1}{7} \right\}$$

$$1069) 13n^2 + 124n = -63$$

$$\left\{ -\frac{7}{13}, -9 \right\}$$

$$1070) 15m^2 - 38m = -11$$

$$\left\{ \frac{1}{3}, \frac{11}{5} \right\}$$

$$1071) 30r^2 - 260r = -160$$

$$\left\{ \frac{2}{3}, 8 \right\}$$

$$1072) 21x^2 + 182x = 539$$

$$\left\{ \frac{7}{3}, -11 \right\}$$

$$1073) 65n^2 - 1053n = -2002$$

$$\left\{ \frac{11}{5}, 14 \right\}$$

$$1074) 22b^2 - 440 = 121b$$

$$\left\{ -\frac{5}{2}, 8 \right\}$$

$$1075) 24v^2 = 208 + 296v$$

$$\left\{ -\frac{2}{3}, 13 \right\}$$

$$1076) 22x^2 + 55 = -121x$$

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

$$1077) 5n^2 = -3 + 8n$$

$$\left\{ \frac{3}{5}, 1 \right\}$$

$$1078) 847a^2 = 756 + 231a$$

$$\left\{ \frac{12}{11}, -\frac{9}{11} \right\}$$

$$1079) 84k^2 = 480 + 792k$$

$$\left\{ -\frac{4}{7}, 10 \right\}$$

$$1080) 3x^2 = 11x - 6$$

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

$$1081) 13x^2 - 27 = 114x$$

$$\left\{-\frac{3}{13}, 9\right\}$$

$$1082) 3m^2 - 7 = 4m$$

$$\left\{\frac{7}{3}, -1\right\}$$

$$1083) 12n^2 - 400 = -80n$$

$$\left\{\frac{10}{3}, -10\right\}$$

$$1084) 27x^2 = 387x - 756$$

$$\left\{\frac{7}{3}, 12\right\}$$

$$1085) 42p^2 - 476p = -1274$$

$$\left\{\frac{13}{3}, 7\right\}$$

$$1086) 11n^2 = -18 - 39n$$

$$\left\{-\frac{6}{11}, -3\right\}$$

$$1087) 5b^2 = -21b + 20$$

$$\left\{\frac{4}{5}, -5\right\}$$

$$1088) 2r^2 - 31r = -65$$

$$\left\{\frac{5}{2}, 13\right\}$$

$$1089) 65x^2 - 780 = -785x$$

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

$$1090) 143a^2 - 1210 = 1463a$$

$$\left\{-\frac{10}{13}, 11\right\}$$

$$1091) 65n^2 - 247n = -182$$

$$\left\{ \frac{14}{5}, 1 \right\}$$

$$1092) 33v^2 + 420 = -372v$$

$$\left\{ -\frac{14}{11}, -10 \right\}$$

$$1093) 3x^2 = -x + 2$$

$$\left\{ \frac{2}{3}, -1 \right\}$$

$$1094) 11x^2 + 154 = -135x$$

$$\left\{ -\frac{14}{11}, -11 \right\}$$

$$1095) 3n^2 = -25n + 132$$

$$\left\{ \frac{11}{3}, -12 \right\}$$

$$1096) 156k^2 + 144 = -316k$$

$$\left\{ -\frac{4}{3}, -\frac{9}{13} \right\}$$

$$1097) 11p^2 = 15p - 4$$

$$\left\{ \frac{4}{11}, 1 \right\}$$

$$1098) 50x^2 = 420 - 670x$$

$$\left\{ \frac{3}{5}, -14 \right\}$$

$$1099) 5n^2 - 38n = 120$$

$$\left\{ -\frac{12}{5}, 10 \right\}$$

$$1100) 2m^2 = 39m - 169$$

$$\left\{ \frac{13}{2}, 13 \right\}$$



**Solve level 5 complexity equations:**

1101)  $5r^2 - 74r + 166 = -2$

$$\left\{ \frac{14}{5}, 12 \right\}$$

1102)  $143x^2 + 192x + 74 = 10$

$$\left\{ -\frac{8}{13}, -\frac{8}{11} \right\}$$

1103)  $13n^2 + 4n + 3 = 3$

$$\left\{ -\frac{4}{13}, 0 \right\}$$

1104)  $10b^2 + 41b - 40 = 5$

$$\left\{ \frac{9}{10}, -5 \right\}$$

1105)  $11v^2 + 85v - 122 = 4$

$$\left\{ \frac{14}{11}, -9 \right\}$$

1106)  $3x^2 - x - 42 = -12$

$$\left\{ \frac{10}{3}, -3 \right\}$$

1107)  $77n^2 - 53n + 17 = 11$

$$\left\{ \frac{6}{11}, \frac{1}{7} \right\}$$

1108)  $11a^2 + 150a + 99 = 8$

$$\left\{ -\frac{7}{11}, -13 \right\}$$

1109)  $11k^2 - 103k - 84 = -14$

$$\left\{ -\frac{7}{11}, 10 \right\}$$

1110)  $5p^2 + 22p - 99 = -8$

$$\left\{ \frac{13}{5}, -7 \right\}$$

$$1111) 3x^2 + 34x + 97 = 6$$

$$\left\{-\frac{13}{3}, -7\right\}$$

$$1112) 25n^2 - 70n + 36 = -13$$

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

$$1113) 121m^2 + 143m + 52 = 12$$

$$\left\{-\frac{5}{11}, -\frac{8}{11}\right\}$$

$$1114) 7p^2 + 33p + 16 = -4$$

$$\left\{-\frac{5}{7}, -4\right\}$$

$$1115) 3x^2 + 32x - 23 = -12$$

$$\left\{\frac{1}{3}, -11\right\}$$

$$1116) 3b^2 - 34b + 89 = 9$$

$$\left\{\frac{10}{3}, 8\right\}$$

$$1117) 3n^2 - 19n + 25 = 5$$

$$\left\{\frac{4}{3}, 5\right\}$$

$$1118) 7r^2 + 96r + 133 = -11$$

$$\left\{-\frac{12}{7}, -12\right\}$$

$$1119) 5x^2 + 4x + 5 = 5$$

$$\left\{-\frac{4}{5}, 0\right\}$$

$$1120) 2n^2 - 7n - 7 = 8$$

$$\left\{-\frac{3}{2}, 5\right\}$$

$$1121) 5a^2 - 57a - 111 = -7$$

$$\left\{-\frac{8}{5}, 13\right\}$$

$$1122) 21x^2 + 43x - 20 = -6$$

$$\left\{\frac{2}{7}, -\frac{7}{3}\right\}$$

$$1123) 5v^2 + 27v - 58 = -2$$

$$\left\{\frac{8}{5}, -7\right\}$$

$$1124) 5x^2 + 68x + 98 = 2$$

$$\left\{-\frac{8}{5}, -12\right\}$$

$$1125) 11n^2 + 117n + 67 = -3$$

$$\left\{-\frac{7}{11}, -10\right\}$$

$$1126) 13k^2 + 61k + 43 = 7$$

$$\left\{-\frac{9}{13}, -4\right\}$$

$$1127) 10p^2 - 119p + 110 = 11$$

$$\left\{\frac{9}{10}, 11\right\}$$

$$1128) 5x^2 + 2x + 11 = 11$$

$$\left\{-\frac{2}{5}, 0\right\}$$

$$1129) 7n^2 + 13n + 8 = 8$$

$$\left\{-\frac{13}{7}, 0\right\}$$

$$1130) 7m^2 - 34m - 60 = -12$$

$$\left\{-\frac{8}{7}, 6\right\}$$

$$1131) 7r^2 + 74r - 45 = -12$$

$$\left\{ \frac{3}{7}, -11 \right\}$$

$$1132) 2x^2 + 11x + 1 = 7$$

$$\left\{ \frac{1}{2}, -6 \right\}$$

$$1133) 5n^2 - 28n + 20 = -12$$

$$\left\{ \frac{8}{5}, 4 \right\}$$

$$1134) 7b^2 + 8b + 11 = 10$$

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

$$1135) 11v^2 + 111v + 115 = 7$$

$$\left\{ -\frac{12}{11}, -9 \right\}$$

$$1136) 14x^2 + 125x - 13 = -4$$

$$\left\{ \frac{1}{14}, -9 \right\}$$

$$1137) 13a^2 + 89a + 59 = -7$$

$$\left\{ -\frac{11}{13}, -6 \right\}$$

$$1138) 65k^2 - 34k - 19 = 5$$

$$\left\{ -\frac{2}{5}, \frac{12}{13} \right\}$$

$$1139) 3p^2 - 7p - 9 = -9$$

$$\left\{ \frac{7}{3}, 0 \right\}$$

$$1140) 33x^2 + 175x + 91 = -7$$

$$\left\{ -\frac{14}{3}, -\frac{7}{11} \right\}$$

$$1141) 13n^2 + 69n + 8 = -12$$

$$\left\{-\frac{4}{13}, -5\right\}$$

$$1142) 12m^2 + 79m - 27 = 8$$

$$\left\{\frac{5}{12}, -7\right\}$$

$$1143) 5p^2 - 66p + 79 = 7$$

$$\left\{\frac{6}{5}, 12\right\}$$

$$1144) 5x^2 + 23x - 97 = -13$$

$$\left\{\frac{12}{5}, -7\right\}$$

$$1145) 33n^2 - 70n - 57 = -9$$

$$\left\{-\frac{6}{11}, \frac{8}{3}\right\}$$

$$1146) 11r^2 - 122r + 131 = 11$$

$$\left\{\frac{12}{11}, 10\right\}$$

$$1147) 3x^2 - 4x - 2 = -2$$

$$\left\{\frac{4}{3}, 0\right\}$$

$$1148) 7n^2 + 82n - 106 = 11$$

$$\left\{\frac{9}{7}, -13\right\}$$

$$1149) 7a^2 + 78a - 181 = -12$$

$$\left\{\frac{13}{7}, -13\right\}$$

$$1150) 7v^2 + 30v + 24 = -3$$

$$\left\{-\frac{9}{7}, -3\right\}$$

$$1151) 3x^2 + 5x + 9 = 9$$

$$\left\{-\frac{5}{3}, 0\right\}$$

$$1152) 55x^2 + 43x + 10 = 4$$

$$\left\{-\frac{2}{11}, -\frac{3}{5}\right\}$$

$$1153) 7n^2 - 96n - 17 = 11$$

$$\left\{-\frac{2}{7}, 14\right\}$$

$$1154) 5k^2 - 27k + 42 = 6$$

$$\left\{\frac{12}{5}, 3\right\}$$

$$1155) 9p^2 - 2p = 11$$

$$\left\{\frac{11}{9}, -1\right\}$$

$$1156) 4x^2 + 57x + 111 = 3$$

$$\left\{-\frac{9}{4}, -12\right\}$$

$$1157) 2n^2 + n + 4 = 7$$

$$\left\{-\frac{3}{2}, 1\right\}$$

$$1158) 35m^2 + 41m - 133 = -3$$

$$\left\{\frac{10}{7}, -\frac{13}{5}\right\}$$

$$1159) 3r^2 + 28r - 99 = -3$$

$$\left\{\frac{8}{3}, -12\right\}$$

$$1160) 7n^2 - 26n - 58 = -13$$

$$\left\{-\frac{9}{7}, 5\right\}$$

$$1161) 13b^2 + 187b + 67 = -3$$

$$\left\{-\frac{5}{13}, -14\right\}$$

$$1162) 2v^2 + 25v + 63 = 13$$

$$\left\{-\frac{5}{2}, -10\right\}$$

$$1163) 5x^2 + 58x + 88 = 8$$

$$\left\{-\frac{8}{5}, -10\right\}$$

$$1164) 5n^2 - 71n + 128 = -4$$

$$\left\{\frac{11}{5}, 12\right\}$$

$$1165) 11a^2 - 135a - 115 = -11$$

$$\left\{-\frac{8}{11}, 13\right\}$$

$$1166) 6k^2 - 85k + 19 = 5$$

$$\left\{\frac{1}{6}, 14\right\}$$

$$1167) 2x^2 + 17x - 23 = 7$$

$$\left\{\frac{3}{2}, -10\right\}$$

$$1168) 169p^2 - 156p + 14 = -13$$

$$\left\{\frac{9}{13}, \frac{3}{13}\right\}$$

$$1169) 49n^2 - 84n - 3 = 10$$

$$\left\{-\frac{1}{7}, \frac{13}{7}\right\}$$

$$1170) 169m^2 - 130m + 14 = -7$$

$$\left\{\frac{7}{13}, \frac{3}{13}\right\}$$

$$1171) 7r^2 + 103r + 162 = 6$$

$$\left\{-\frac{12}{7}, -13\right\}$$

$$1172) 9x^2 + 121x + 39 = -13$$

$$\left\{-\frac{4}{9}, -13\right\}$$

$$1173) 13n^2 - 51n - 8 = -4$$

$$\left\{-\frac{1}{13}, 4\right\}$$

$$1174) 22b^2 - 131b - 67 = 11$$

$$\left\{\frac{13}{2}, -\frac{6}{11}\right\}$$

$$1175) 5r^2 + 19r - 80 = -14$$

$$\left\{\frac{11}{5}, -6\right\}$$

$$1176) 11x^2 + 2x - 18 = -5$$

$$\left\{-\frac{13}{11}, 1\right\}$$

$$1177) 9n^2 - 128n + 151 = 8$$

$$\left\{\frac{11}{9}, 13\right\}$$

$$1178) 3a^2 + 8a - 16 = -13$$

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

$$1179) 121v^2 - 11v + 4 = 10$$

$$\left\{-\frac{2}{11}, \frac{3}{11}\right\}$$

$$1180) 2x^2 - 23x + 62 = 6$$

$$\left\{\frac{7}{2}, 8\right\}$$



$$1181) 5x^2 + 19x + 4 = -10$$

$$\left\{-\frac{14}{5}, -1\right\}$$

$$1182) 11n^2 - 8n + 4 = 7$$

$$\left\{-\frac{3}{11}, 1\right\}$$

$$1183) 13k^2 - 59k - 24 = 6$$

$$\left\{-\frac{6}{13}, 5\right\}$$

$$1184) 55p^2 - 57p - 34 = -6$$

$$\left\{\frac{7}{5}, -\frac{4}{11}\right\}$$

$$1185) 11n^2 - 2n + 5 = 5$$

$$\left\{\frac{2}{11}, 0\right\}$$

$$1186) 11m^2 - 118m - 154 = 14$$

$$\left\{-\frac{14}{11}, 12\right\}$$

$$1187) 11r^2 + 97r + 69 = -3$$

$$\left\{-\frac{9}{11}, -8\right\}$$

$$1188) 22x^2 - 29x - 67 = -2$$

$$\left\{-\frac{13}{11}, \frac{5}{2}\right\}$$

$$1189) 2n^2 - 7n - 6 = -6$$

$$\left\{\frac{7}{2}, 0\right\}$$

$$1190) 13b^2 + 119b + 11 = -7$$

$$\left\{-\frac{2}{13}, -9\right\}$$

$$1191) 5v^2 + 3v - 30 = 6$$

$$\left\{ \frac{12}{5}, -3 \right\}$$

$$1192) 11x^2 + 38x - 22 = 2$$

$$\left\{ \frac{6}{11}, -4 \right\}$$

$$1193) 14n^2 - 169n - 165 = 4$$

$$\left\{ -\frac{13}{14}, 13 \right\}$$

$$1194) 13a^2 + a + 5 = 5$$

$$\left\{ -\frac{1}{13}, 0 \right\}$$

$$1195) 143k^2 - 226k + 61 = 5$$

$$\left\{ \frac{4}{13}, \frac{14}{11} \right\}$$

$$1196) 6p^2 - 49p + 51 = -14$$

$$\left\{ \frac{13}{2}, \frac{5}{3} \right\}$$

$$1197) 11x^2 + 113x + 130 = 4$$

$$\left\{ -\frac{14}{11}, -9 \right\}$$

$$1198) 2m^2 - 15m - 54 = -4$$

$$\left\{ -\frac{5}{2}, 10 \right\}$$

$$1199) 11n^2 - n - 23 = -13$$

$$\left\{ -\frac{10}{11}, 1 \right\}$$

$$1200) 33r^2 + 139r + 70 = 4$$

$$\left\{ -\frac{11}{3}, -\frac{6}{11} \right\}$$

$$1201) 5x^2 + 49x - 56 = -17x$$

$$\left\{ \frac{4}{5}, -14 \right\}$$

$$1202) 5n^2 - 31n + 50 = 6n - 18$$

$$\left\{ \frac{17}{5}, 4 \right\}$$

$$1203) 6b^2 - 170b - 200 = -13b^2$$

$$\left\{ -\frac{20}{19}, 10 \right\}$$

$$1204) 7r^2 - r = 0$$

$$\left\{ \frac{1}{7}, 0 \right\}$$

$$1205) 6x^2 + 95x + 214 = -7$$

$$\left\{ -\frac{17}{6}, -13 \right\}$$

$$1206) n^2 + 3n - 52 = -6n^2 + 2$$

$$\left\{ \frac{18}{7}, -3 \right\}$$

$$1207) -2a^2 - 78a - 68 = 10 - 16a^2 - 7a$$

$$\left\{ -\frac{13}{14}, 6 \right\}$$

$$1208) 85v^2 + 140 = -219v$$

$$\left\{ -\frac{7}{5}, -\frac{20}{17} \right\}$$

$$1209) 11x^2 + 214x - 103 = 17$$

$$\left\{ \frac{6}{11}, -20 \right\}$$

$$1210) 209x^2 + 179x - 7 = 3$$

$$\left\{ -\frac{10}{11}, \frac{1}{19} \right\}$$

$$1211) 11n^2 + 181 = 1 - 208n$$

$$\left\{-\frac{10}{11}, -18\right\}$$

$$1212) 247k^2 - 394k + 125 = -20k + 5$$

$$\left\{\frac{20}{19}, \frac{6}{13}\right\}$$

$$1213) 11p^2 + 142p - 105 = -16p$$

$$\left\{\frac{7}{11}, -15\right\}$$

$$1214) 30x^2 + 17x - 6 = 20x^2$$

$$\left\{\frac{3}{10}, -2\right\}$$

$$1215) 209n^2 + 414n + 142 = -18$$

$$\left\{-\frac{16}{11}, -\frac{10}{19}\right\}$$

$$1216) 13m^2 - 21 = 73m + 9$$

$$\left\{-\frac{5}{13}, 6\right\}$$

$$1217) 11r^2 - 5r - 20 = -17r$$

$$\left\{\frac{10}{11}, -2\right\}$$

$$1218) 13x^2 - 7x - 29 = -9$$

$$\left\{\frac{20}{13}, -1\right\}$$

$$1219) 133n^2 + 38 = 129n + 12$$

$$\left\{\frac{2}{7}, \frac{13}{19}\right\}$$

$$1220) 13b^2 - 30b + 8 = 18 - 9b$$

$$\left\{-\frac{5}{13}, 2\right\}$$

$$1221) 27v^2 - 348v + 160 = 10v^2$$

$$\left\{ \frac{8}{17}, 20 \right\}$$

$$1222) 5x^2 + 64x - 236 = 20$$

$$\left\{ \frac{16}{5}, -16 \right\}$$

$$1223) 7n^2 - 22 = 13n - 2$$

$$\left\{ \frac{20}{7}, -1 \right\}$$

$$1224) 8a^2 - 186a - 17 = -3a^2$$

$$\left\{ -\frac{1}{11}, 17 \right\}$$

$$1225) 16k^2 - 281k + 129 = -15 - k^2$$

$$\left\{ \frac{9}{17}, 16 \right\}$$

$$1226) 209p^2 - 192 = -172p$$

$$\left\{ \frac{12}{19}, -\frac{16}{11} \right\}$$

$$1227) 14x^2 - 123x + 247 = 6x^2$$

$$\left\{ \frac{19}{8}, 13 \right\}$$

$$1228) 19n^2 + 79n + 32 = 20$$

$$\left\{ -\frac{3}{19}, -4 \right\}$$

$$1229) 16m^2 + 155m + 266 = -5m^2$$

$$\left\{ -\frac{19}{7}, -\frac{14}{3} \right\}$$

$$1230) 47r^2 - 179r = -117 + 13r^2$$

$$\left\{ \frac{9}{2}, \frac{13}{17} \right\}$$

$$1231) 15x^2 - 151x + 158 = 14$$

$$\left\{ \frac{16}{15}, 9 \right\}$$

$$1232) 23n^2 + 22n + 3 = 14n^2 + 18$$

$$\left\{ \frac{5}{9}, -3 \right\}$$

$$1233) 95b^2 - 71b + 12 = 20b$$

$$\left\{ \frac{3}{19}, \frac{4}{5} \right\}$$

$$1234) 4v^2 = -5v$$

$$\left\{ -\frac{5}{4}, 0 \right\}$$

$$1235) 11x^2 + 86x = 60 - 18x$$

$$\left\{ \frac{6}{11}, -10 \right\}$$

$$1236) 11n^2 + 140n + 180 = -7n$$

$$\left\{ -\frac{15}{11}, -12 \right\}$$

$$1237) 7a^2 = -3a$$

$$\left\{ -\frac{3}{7}, 0 \right\}$$

$$1238) 19v^2 + 16v = 0$$

$$\left\{ -\frac{16}{19}, 0 \right\}$$

$$1239) 169x^2 + 27x = 14x + 342$$

$$\left\{ \frac{18}{13}, -\frac{19}{13} \right\}$$

$$1240) 3x^2 - 7 = -12 - 16x$$

$$\left\{ -\frac{1}{3}, -5 \right\}$$

$$1241) 4n^2 - 186n + 154 = -7n^2 - 6$$

$$\left\{ \frac{10}{11}, 16 \right\}$$

$$1242) 17k^2 - 30k - 12 = 12k^2 - 2k$$

$$\left\{ -\frac{2}{5}, 6 \right\}$$

$$1243) 3p^2 + 13p - 6 = -6$$

$$\left\{ -\frac{13}{3}, 0 \right\}$$

$$1244) 17x^2 - 213x + 126 = 18$$

$$\left\{ \frac{9}{17}, 12 \right\}$$

$$1245) 6n^2 + 234 = 103n + n^2$$

$$\left\{ \frac{13}{5}, 18 \right\}$$

$$1246) 13m^2 - 20m - 30 = -18$$

$$\left\{ -\frac{6}{13}, 2 \right\}$$

$$1247) -7r^2 - 144 = 48r - 12r^2$$

$$\left\{ -\frac{12}{5}, 12 \right\}$$

$$1248) 17x^2 + 28x - 23 = 12x^2 - 20 + 14x$$

$$\left\{ \frac{1}{5}, -3 \right\}$$

$$1249) 5n^2 + 33 = -7 - 54n$$

$$\left\{ -\frac{4}{5}, -10 \right\}$$

$$1250) 2b^2 - 137 = 16 - 46b - 5b^2$$

$$\left\{ \frac{17}{7}, -9 \right\}$$

$$1251) 143v^2 - 193v - 17 = 17v$$

$$\left\{ \frac{17}{11}, -\frac{1}{13} \right\}$$

$$1252) 7x^2 - 6 = -41x$$

$$\left\{ \frac{1}{7}, -6 \right\}$$

$$1253) 33n^2 - 11n = 16n^2$$

$$\left\{ \frac{11}{17}, 0 \right\}$$

$$1254) 15a^2 - 46a - 14 = 19$$

$$\left\{ -\frac{3}{5}, \frac{11}{3} \right\}$$

$$1255) k^2 - 169 = -6k^2 + 87k - 15$$

$$\left\{ -\frac{11}{7}, 14 \right\}$$

$$1256) 29p^2 + 346p + 100 = 12p^2 + p$$

$$\left\{ -\frac{5}{17}, -20 \right\}$$

$$1257) 6x^2 - 94x + 60 = -5x^2 + 12$$

$$\left\{ \frac{6}{11}, 8 \right\}$$

$$1258) 25n^2 - 107n - 110 = 12n + 12n^2$$

$$\left\{ -\frac{11}{13}, 10 \right\}$$

$$1259) -3m^2 - 100m - 110 = 11m - 14m^2$$

$$\left\{ -\frac{10}{11}, 11 \right\}$$

$$1260) -7r^2 + 142r - 39 = 2r - 18r^2$$

$$\left\{ \frac{3}{11}, -13 \right\}$$



$$1261) 23x^2 - 7x = 7x + 10x^2$$

$$\left\{ \frac{14}{13}, 0 \right\}$$

$$1262) 13n^2 - 171 = -111n + 19$$

$$\left\{ \frac{19}{13}, -10 \right\}$$

$$1263) 3b^2 - 210b + 82 = 2 - 10b^2 + 3b$$

$$\left\{ \frac{5}{13}, 16 \right\}$$

$$1264) 13v^2 + 87v - 20 = 8$$

$$\left\{ \frac{4}{13}, -7 \right\}$$

$$1265) 75x^2 - 236x + 180 = -2x^2$$

$$\left\{ \frac{10}{7}, \frac{18}{11} \right\}$$

$$1266) 17a^2 - 213a - 112 = -8$$

$$\left\{ -\frac{8}{17}, 13 \right\}$$

$$1267) 11n^2 + 180n + 227 = -11 + 9n$$

$$\left\{ -\frac{17}{11}, -14 \right\}$$

$$1268) 4x^2 + 5x - 38 = -17$$

$$\left\{ \frac{7}{4}, -3 \right\}$$

$$1269) 7v^2 + 110 = -20 - 101v$$

$$\left\{ -\frac{10}{7}, -13 \right\}$$

$$1270) 17x^2 + 125x + 140 = -14x$$

$$\left\{ -\frac{20}{17}, -7 \right\}$$

$$1271) 19n^2 - 10n - 2 = -2$$

$$\left\{ \frac{10}{19}, 0 \right\}$$

$$1272) 103k^2 - 97k - 154 = -8k - 16k^2$$

$$\left\{ -\frac{14}{17}, \frac{11}{7} \right\}$$

$$1273) 2p^2 - 30 = 5 + 3p$$

$$\left\{ -\frac{7}{2}, 5 \right\}$$

$$1274) 19x^2 + 229x + 202 = -18$$

$$\left\{ -\frac{20}{19}, -11 \right\}$$

$$1275) 11n^2 - 227n + 132 = -8$$

$$\left\{ \frac{7}{11}, 20 \right\}$$

$$1276) 110m^2 + 405m + 281 = 4m - 9m^2 + 9$$

$$\left\{ -\frac{17}{7}, -\frac{16}{17} \right\}$$

$$1277) 18r^2 - 187r + 115 = -r^2 + 13r + 15$$

$$\left\{ \frac{10}{19}, 10 \right\}$$

$$1278) 151x^2 - 72 = -18x^2 + 78x$$

$$\left\{ \frac{12}{13}, -\frac{6}{13} \right\}$$

$$1279) 2n^2 - n - 8 = -4n - 8 - 2n^2$$

$$\left\{ -\frac{3}{4}, 0 \right\}$$

$$1280) 15b^2 + 7b - 11 = -4b - 11$$

$$\left\{ -\frac{11}{15}, 0 \right\}$$

$$1281) 13v^2 + 147v = -84 - 16v$$

$$\left\{-\frac{7}{13}, -12\right\}$$

$$1282) 5x^2 - 56x - 110 = 7$$

$$\left\{-\frac{9}{5}, 13\right\}$$

$$1283) 221x^2 + 162 = 423x$$

$$\left\{\frac{9}{17}, \frac{18}{13}\right\}$$

$$1284) 35a^2 = -247 + 198a$$

$$\left\{\frac{19}{5}, \frac{13}{7}\right\}$$

$$1285) 6k^2 - 62k + 34 = 3k - 16$$

$$\left\{\frac{5}{6}, 10\right\}$$

$$1286) -7p^2 + 53p + 204 = -10p^2$$

$$\left\{-\frac{17}{3}, -12\right\}$$

$$1287) 18x^2 - 54 = -4x^2 - 87x$$

$$\left\{\frac{6}{11}, -\frac{9}{2}\right\}$$

$$1288) 27n^2 + 18n = 20n^2$$

$$\left\{-\frac{18}{7}, 0\right\}$$

$$1289) 21m^2 - 11m + 4 = 14m^2$$

$$\left\{\frac{4}{7}, 1\right\}$$

$$1290) 3r^2 - 13r = 7 + r^2$$

$$\left\{-\frac{1}{2}, 7\right\}$$

$$1291) 11x^2 + x = 26 - 2x + 6x^2$$

$$\left\{-\frac{13}{5}, 2\right\}$$

$$1292) -10n^2 - 67n - 297 = 9 - 15n^2$$

$$\left\{-\frac{18}{5}, 17\right\}$$

$$1293) 5b^2 - 38b + 52 = -13$$

$$\left\{\frac{13}{5}, 5\right\}$$

$$1294) 23v^2 + 106v + 288 = 18v^2$$

$$\left\{-\frac{16}{5}, -18\right\}$$

$$1295) 13x^2 - 266x - 19 = -20x$$

$$\left\{-\frac{1}{13}, 19\right\}$$

$$1296) 5n^2 + 82n - 15 = 8n$$

$$\left\{\frac{1}{5}, -15\right\}$$

$$1297) -a^2 + 68a - 8 = -14a^2 + 18a$$

$$\left\{\frac{2}{13}, -4\right\}$$

$$1298) -8k^2 - 299 = -15k^2 - 14 + 118k$$

$$\left\{-\frac{15}{7}, 19\right\}$$

$$1299) 18x^2 - 121x - 120 = x^2$$

$$\left\{-\frac{15}{17}, 8\right\}$$

$$1300) 10x^2 + 152 = -99x$$

$$\left\{-\frac{19}{10}, -8\right\}$$