

Practice Using The Quadratic Formula

Date _____ Period _____

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Solve using quadratic formula. Standard Form first. These have 2 real rational solutions. $d = \text{perfect square}$

1) $x^2 - 6x = 16$

2) $5p^2 = 18 + 9p$

3) $m^2 = -m + 30$

4) $2n^2 + 8 = 10n$

5) $6x^2 = x + 7$

6) $6p^2 - 69 = -5p$

7) $4b^2 = -2b + 42$

8) $5n^2 + 2 = -7n$

9) $3r^2 + r = 102$

10) $4x^2 - x = 5$

11) $3n^2 - n = 102$

12) $n^2 = 126 - 5n$

Solve using quadratic formula. Standard Form first. These have 2 real irrational solutions. $d = \text{not perfect square}$

13) $x^2 - 14 = -10x$

14) $v^2 = -3 - 12v$

15) $3n^2 = 4n + 5$

16) $3k^2 + 6k = 3$

17) $2r^2 = -4r + 8$

18) $9p^2 + 3p = 21$

19) $2n^2 + 6n = 21$

20) $v^2 + 4v = 16$

21) $8a^2 - 5 = -4a$

22) $2n^2 + 2n = 16$

23) $7x^2 - 2x = 8$

24) $3a^2 - 1 = 4a$

Solve using quadratic formula. Standard Form first. These have 0 real irrational solutions. $d = \text{negative}$

25) $9x^2 = -12 - 8x$

26) $12x^2 + 7 = -4x$

27) $10m^2 - m = -9$

28) $6n^2 = -3 - 2n$

Solve using quadratic formula. Standard Form first. These have 1 real irrational solutions. $d=0$

29) $6n^2 - 12n + 6 = 0$

30) $r^2 + 12r + 36 = 0$

Answers to Practice Using The Quadratic Formula (ID: 11)

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|---|---|---|--------------------------------------|
| 1) $\{8, -2\}$ | 2) $\left\{3, -1\frac{1}{5}\right\}$ | 3) $\{5, -6\}$ | 4) $\{4, 1\}$ |
| 5) $\left\{1\frac{1}{6}, -1\right\}$ | 6) $\left\{3, -3\frac{5}{6}\right\}$ | 7) $\left\{3, -3\frac{1}{2}\right\}$ | 8) $\left\{-\frac{2}{5}, -1\right\}$ |
| 9) $\left\{5\frac{2}{3}, -6\right\}$ | 10) $\left\{1\frac{1}{4}, -1\right\}$ | 11) $\left\{6, -5\frac{2}{3}\right\}$ | 12) $\{9, -14\}$ |
| 13) $\{-5 + \sqrt{39}, -5 - \sqrt{39}\}$ | 14) $\{-6 + \sqrt{33}, -6 - \sqrt{33}\}$ | 15) $\left\{\frac{2 + \sqrt{19}}{3}, \frac{2 - \sqrt{19}}{3}\right\}$ | |
| 16) $\{-1 + \sqrt{2}, -1 - \sqrt{2}\}$ | 17) $\{-1 + \sqrt{5}, -1 - \sqrt{5}\}$ | 18) $\left\{\frac{-1 + \sqrt{85}}{6}, \frac{-1 - \sqrt{85}}{6}\right\}$ | |
| 19) $\left\{\frac{-3 + \sqrt{51}}{2}, \frac{-3 - \sqrt{51}}{2}\right\}$ | 20) $\{-2 + 2\sqrt{5}, -2 - 2\sqrt{5}\}$ | 21) $\left\{\frac{-1 + \sqrt{11}}{4}, \frac{-1 - \sqrt{11}}{4}\right\}$ | |
| 22) $\left\{\frac{-1 + \sqrt{33}}{2}, \frac{-1 - \sqrt{33}}{2}\right\}$ | 23) $\left\{\frac{1 + \sqrt{57}}{7}, \frac{1 - \sqrt{57}}{7}\right\}$ | 24) $\left\{\frac{2 + \sqrt{7}}{3}, \frac{2 - \sqrt{7}}{3}\right\}$ | |
| 25) No solution. | 26) No solution. | 27) No solution. | 28) No solution. |
| 29) $\{1\}$ | 30) $\{-6\}$ | | |