

[12-1] Quadratic Equations with Perfect Squares

Solve each equation. Express each answer in simplest form. If an answer is irrational, also approximate your solution(s) to the nearest tenth.

1) $x^2 = 81$

2) $y^2 - 49 = 0$

3) $4x^2 - 200 = -20$

4) $(x - 2)^2 = 28$

5) $x^2 = 20$

6) $y^2 - 16 = 0$

7) $7x^2 + 18 = 4$

8) $3(x - 5)^2 = 12$

9) $3x^2 = 45$

10) $g^2 + 11 = 86$

11) $(x - 1)^2 = 9$

12) $5(x + 1)^2 = 40$

13) $7x^2 = 84$

14) $2m^2 - 3 = 15$

15) $(x + 3)^2 = 25$

16) $(2x - 3)^2 = 81$

[12-3] The Quadratic Formula

Solve each equation using the quadratic formula. Express each answer in simplest form. If an answer is irrational, also approximate your solution(s) to the nearest tenth. Work must be shown on your paper.

17) $x^2 - 7x + 10 = 0$

18) $-2x + 3x^2 = 5$

19) $2x^2 + 4 = 5x$

20) $3x^2 + 5 = -10x$

21) $6x^2 - x = 2$

22) $x^2 + 9 = -9x$

23) $3x^2 + 5x = -3$

24) $x^2 - 3x = 4$

Quadratic Formula:

$$x = \frac{-b \pm \sqrt{b^2 - (4ac)}}{2a}$$