Name: _____

Sec. 10.4: Use Square Roots to Solve Quadratic Equations

Recall that when working with quadratic equations we generally want an expression set equal to 0: $ax^2 + bx + c = 0$. One exception occurs when $b = 0$; in these cases we can solve the equation by using square roots.

Examples

1. Solve $x^2 = 25$.

2. Solve $-2x^2 = -32$.

3. Solve $4x^2 + 5 = 14$.

4. Solve $\frac{1}{2}x^2 - 4 = 14$.

5. Solve $x^2 + 20 = 16$.

6. Solve $3x^2 - 7 = 32$. Round your answer to the nearest hundredth.

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Sec. 10.4 Practice Problems

Solve each equation by taking square roots.

1) $x^2 = 100$

2) $n^2 = 19$

3) $k^2 = 26$

4) $x^2 = 9$

5) $64m^2 = 1$

6) $n^2 - 6 = 3$

7) $9x^2 = 135$

8) $x^2 + 7 = 20$

9) $25p^2 = 81$

10) $-7r^2 = -105$

11) $-7n^2 = -329$

12) $b^2 + 7 = 8$

13) $9n^2 - 5 = 292$

14) $9p^2 - 8 = 28$

15) $10v^2 + 9 = 19$

16) $9a^2 + 6 = 906$

17) $9x^2 + 6 = 798$

18) $9k^2 - 5 = 184$

Answers to Sec. 10.4 Practice Problems

1) $\{10, -10\}$
2) $\{4.359, -4.359\}$
3) $\{5.099, -5.099\}$
4) $\{3, -3\}$
5) $\{0.125, -0.125\}$
6) $\{3, -3\}$
7) $\{3.873, -3.873\}$
8) $\{3.606, -3.606\}$
9) $\{1.8, -1.8\}$
10) $\{3.873, -3.873\}$
11) $\{6.856, -6.856\}$
12) $\{1, -1\}$
13) $\{5.745, -5.745\}$
14) $\{2, -2\}$
15) $\{1, -1\}$
16) $\{10, -10\}$
17) $\{9.381, -9.381\}$
18) $\{4.583, -4.583\}$