EXTRA PRACTICE — Exercises

Unit VIII – Quadratic Equations
Part A – Solving Quadratic Equations of the form $ax^2+bx+c=0$
Lesson 2 – Suppose a, b, c ≠ 0

For each of the following relations, identify a, b, and c relative to the standard form, and then solve using appropriate strategies.

1. $x^2 - 4x = 21$

2. $n^2 = {}^-12n - 20$

3. $6x^2 + 5x + 1 = 0$

4. $x^2 + 6x - 41 = 0$

5. $3y^2 - 8y + 4 = 0$

6. $y^2 - 3y - 6 = 0$

7. $y^2 - 5y - 5 = 0$

8. $a^2 + 5a + 2 = 0$

9. $y^2 = 7y - 15$

10. $t^2 + 7t = {}^-1$

EXTRA PRACTICE — Answer Key

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For each of the following relations, identify a, b, and c relative to the standard form, and then solve using appropriate strategies.

1. $a = 1, b = -4, c = -21 \quad S = \{7, -3\}$

2. $a = 1, b = 12, c = 20 \quad S = \{-10, -2\}$

3. $a = 6, b = 5, c = 1 \quad S = \left\{-\frac{1}{3}, -\frac{1}{2}\right\}$

4. $a = 1, b = 6, c = -41 \quad S = \{-3 + 5\sqrt{2}, -3 - 5\sqrt{2}\}$

5. $a = 3, b = -8, c = 4 \quad S = \left\{\frac{2}{3}, 2\right\}$

6. $a = 1, b = -3, c = -6 \quad S = \left\{\frac{3 + \sqrt{33}}{2}, \frac{3 - \sqrt{33}}{2}\right\}$

7. $a = 1, b = -5, c = -5 \quad S = \left\{\frac{5 + 3\sqrt{5}}{2}, \frac{5 - 3\sqrt{5}}{2}\right\}$

8. $a = 1, b = 5, c = 2 \quad S = \left\{\frac{-5 + \sqrt{17}}{2}, \frac{-5 - \sqrt{17}}{2}\right\}$

9. $a = 1, b = -7, c = 15 \quad S = \{2, 5\}$

10. $a = 1, b = 7, c = 1 \quad S = \left\{\frac{-7 + 3\sqrt{5}}{2}, \frac{-7 - 3\sqrt{5}}{2}\right\}$