

EXTRA PRACTICE — Exercises

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Unit VIII – Quadratic Equations

Part A – Solving Quadratic Equations of the form $ax^2+bx+c=0$

Lesson 3 – The Quadratic Formula

Solve each of the following by first identifying a, b, and c, and then substituting in the quadratic formula.

1. $2n^2 - n - 1 = 0$

2. $x^2 - 6x + 8 = 0$

3. $n^2 = 6n + 11$

4. $y^2 + 2y + 2 = 0$

5. $8y^2 = 4y - 5$

6. $3n^2 + 2 = 2n$

7. $5x^2 = 1 - 2x$

8. $\frac{1}{3}y^2 + \frac{3}{2} = \frac{1}{3} - y$

9. $2x^2\sqrt{2} + 3x - \sqrt{2} = 0$

10. $x^2 - 2ix + 3 = 0$

EXTRA PRACTICE — Answer Key

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Lesson 3 – The Quadratic Formula

Solve each of the following by first identifying a, b, and c, and then substituting in the quadratic formula.

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

2. $a = 1, b = -6, c = 8$ $S = \{4, 2\}$

3. $a = 1, b = -6, c = -11$ $S = \{3 + 2\sqrt{5}, 3 - 2\sqrt{5}\}$

4. $a = 1, b = 2, c = 2$ $S = \{-1 + i, -1 - i\}$

5. $a = 8, b = -4, c = 5$ $S = \left\{\frac{1+3i}{4}, \frac{1-3i}{4}\right\}$

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

7. $a = 5, b = 2, c = -1$ $S = \left\{\frac{-1+\sqrt{6}}{5}, \frac{-1-\sqrt{6}}{5}\right\}$

8. $a = 2, b = 6, c = 7$ $S = \left\{\frac{-3+i\sqrt{5}}{2}, \frac{-3-i\sqrt{5}}{2}\right\}$

9. $a = 2\sqrt{2}, b = 3, c = -\sqrt{2}$ $S = \left\{\frac{\sqrt{2}}{4}, -\sqrt{2}\right\}$

10. $a = 1, b = -2i, c = 3$ $S = \{3i, -i\}$