

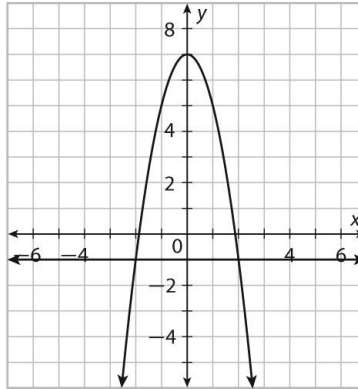
Unit 2 Quadratic Functions, Equations, and Relations

MODULE 3 Quadratic Equations

LESSON 3-1

Practice and Problem Solving: A/B

1. $x = -2$ and $x = 2$



2. factoring:

$$-2x^2 + 7 = -1$$

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

$$-2(x^2 + 4) = 0$$

$$-2(x+2)(x-2) = 0$$

$$x = -2 \text{ or } x = 2$$

3. taking square roots:

$$-2x^2 + 7 = -1$$

$$-2x^2 = -8$$

$$x^2 = 4$$

$$x = \pm\sqrt{4}$$

$$x = \pm 2$$

4. -16

5. -11

6. $-\frac{7}{9}$

7. real solutions; $x = \pm 2\sqrt{\frac{3}{7}}$

8. imaginary solutions; $x = \pm i\sqrt{6}$

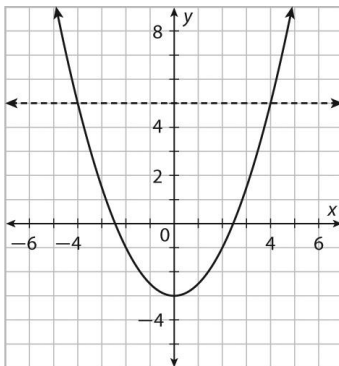
9. imaginary solutions; $x = \pm i$

10. $\sqrt{3} \approx 1.7 \text{ sec}$

11. $\frac{\sqrt{13}}{4} \approx 0.9 \text{ sec}$

Practice and Problem Solving: C

1. $x = -4$ and $x = 4$



2. factoring:

$$\frac{1}{2}x^2 - 3 = 5$$

$$\frac{1}{2}x^2 - 8 = 0$$

$$\frac{1}{2}(x^2 - 16) = 0$$

$$\frac{1}{2}(x + 4)(x - 4) = 0$$

$$x = -4 \text{ or } x = 4$$

3. taking square roots:

$$\frac{1}{2}x^2 - 3 = 5$$

$$\frac{1}{2}x^2 = 8$$

$$x^2 = 16$$

$$x = \pm\sqrt{16}$$

$$x = \pm 4$$

4. -441

5. -388

6. $-\frac{189}{25}$

7. imaginary solutions: $x = \pm 6i\sqrt{3}$

8. real solutions: $x = \pm\sqrt{\frac{14}{5}}$

9. imaginary solutions: $x = \pm i\sqrt{5}$