

9-3
EXERCISES

Chapter 9
Quadratic Functions and Equations

Homework Help Online

Online Support for Lesson 9-3 Homework

GUIDED PRACTICE

Click a video icon to see a Lesson Tutorial Video. Click a pencil icon to practice similar problems.



VIDEO

See Example 1

Graph each quadratic function.

1. $y = x^2 - 2x - 3$

2. $-y - 3x^2 = -3$

3. $y = 2x^2 + 2x - 4$

4. $y = x^2 + 4x - 8$

5. $y + x^2 + 5x + 2 = 0$

6. $y = 4x^2 + 2$



PRACTICE



VIDEO

See Example 2

7. **Multi-Step** The height in feet of a golf ball that is hit from the ground can be modeled by the function $f(x) = -16x^2 + 96x$, where x is the time in seconds after the ball is hit. Find the ball's maximum height and the time it takes the ball to reach this height. Then find how long the ball is in the air.



PRACTICE

PRACTICE AND PROBLEM SOLVING

Click a video icon to see a Lesson Tutorial Video. Click a lightbulb icon to see a complete solution.



VIDEO

Graph each quadratic function.

8. $y = -4x^2 + 12x - 5$ 9. $y = 3x^2 + 12x + 9$ 10. $y - 7x^2 - 14x = 3$
11. $y = -x^2 + 2x$ 12. $y - 1 = 4x^2 + 8x$ 13. $y = -2x^2 - 3x + 4$



VIDEO

14. **Multi-Step** A juggler tosses a ring into the air. The height of the ring in feet above the juggler's hands can be modeled by the function $f(x) = -16x^2 + 16x$, where x is the time in seconds after the ring is tossed. Find the ring's maximum height above the juggler's hands and the time it takes the ring to reach this height. Then find how long the ring is in the air.



SOLUTION

For each quadratic function, find the axis of symmetry and the vertex of its graph.

15. $y = x^2 - 8x$



SOLUTION

17. $y = 4 - 3x^2$



SOLUTION

19. $y = -x^2 - x - 4$



SOLUTION

19. $y = -x^2 - x - 4$



SOLUTION

Graph each quadratic function. On your graph, label the coordinates of the vertex. Draw and label the axis of symmetry.

21. $y = -x^2$



SOLUTION

$$23. y = x^2 - 6x + 4$$



SOLUTION

$$25. y = 3x^2 - 4$$