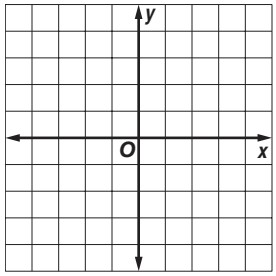
NAME _____ DATE _____ PERIOD _____

9-1 Skills Practice

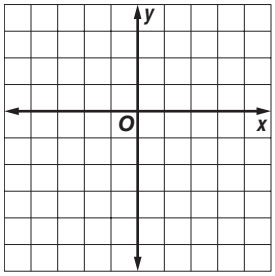
Graphing Quadratic Functions

Use a table of values to graph each function. State the domain the range.

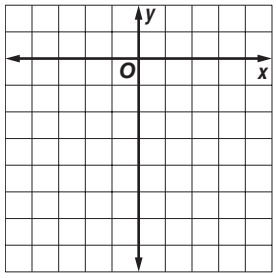
1. $y = x^2 - 4$



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



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



Find the vertex, the equation of the axis of symmetry, and the *y*-intercept.

4. $y = 2x^2 - 8x + 6$

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

6. $y = -3x^2 - 12x + 3$

Consider each equation.

a. Determine whether the function has *maximum* or *minimum* value.

b. State the maximum or minimum value.

c. What are the domain and range of the function?

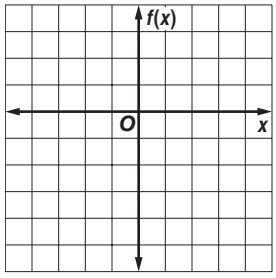
7. $y = 2x^2$

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

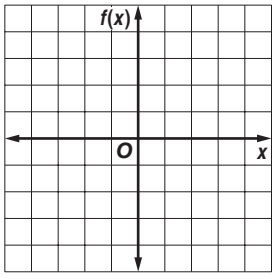
9. $y = -x^2 + 4x - 1$

Graph each function.

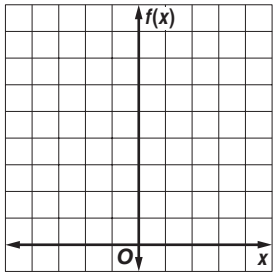
10. $f(x) = -x^2 - 2x + 2$



11. $f(x) = 2x^2 + 4x - 2$



12. $f(x) = -2x^2 - 4x + 6$



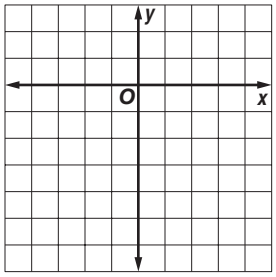
NAME _____ DATE _____ PERIOD _____

9-1 Practice

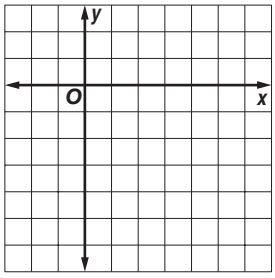
Graphing Quadratic Functions

Use a table of values to graph each function. Determine the domain and range.

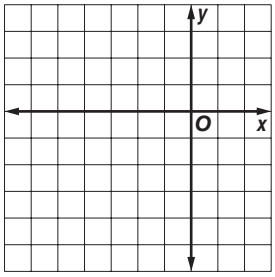
1. $y = -x^2 + 2$



2. $y = x^2 - 6x + 3$



3. $y = -2x^2 - 8x - 5$



Find the vertex, the equation of the axis of symmetry, and the *y*-intercept.

4. $y = x^2 - 9$

5. $y = -2x^2 + 8x - 5$

6. $4x^2 - 4x + 1$

Consider each equation. Determine whether the function has *maximum* or *minimum* value. State the maximum or minimum value. What are the domain and range of the function?

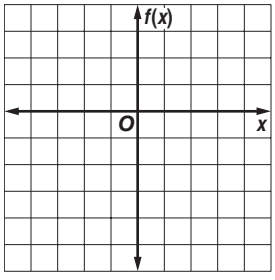
7. $y = 5x^2 - 2x + 2$

8. $y = -x^2 + 5x - 10$

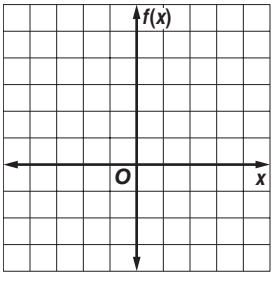
9. $y = \frac{3}{2}x^2 + 4x - 9$

Graph each function.

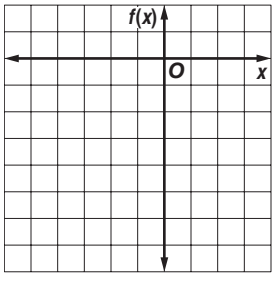
10. $f(x) = -x^2 + 3$



11. $f(x) = -2x^2 + 8x - 3$



12. $f(x) = 2x^2 + 8x + 1$



13. BASEBALL A player hits a baseball into the outfield. The equation $h = -0.005x^2 + x + 3$ gives the path of the ball, where h is the height and x is the horizontal distance the ball travels.

a. What is the equation of the axis of symmetry?

b. What is the maximum height reached by the baseball?

c. An outfielder catches the ball three feet above the ground. How far has the ball traveled horizontally when the outfielder catches it?

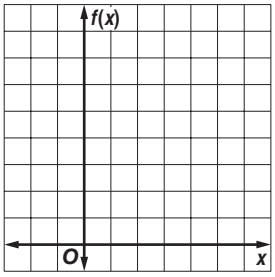
NAME _____ DATE _____ PERIOD _____

9-2 Skills Practice

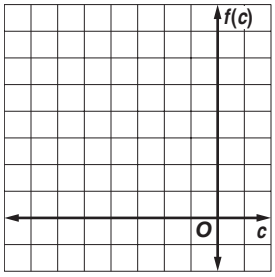
Solving Quadratic Equations by Graphing

Solve each equation by graphing.

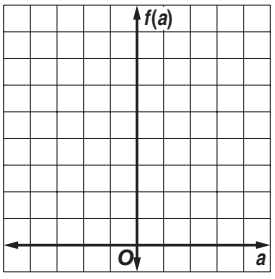
1. $x^2 - 2x + 3 = 0$



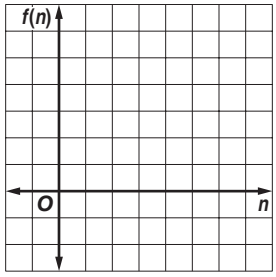
2. $c^2 + 6c + 8 = 0$



3. $a^2 - 2a = -1$

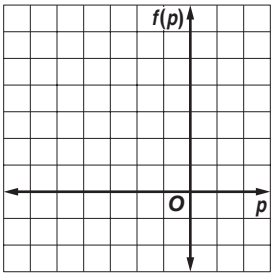


4. $n^2 - 7n = -10$

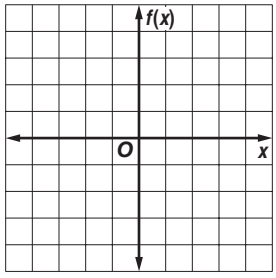


Solve each equation by graphing. If integral roots cannot be found, estimate the roots to the nearest tenth.

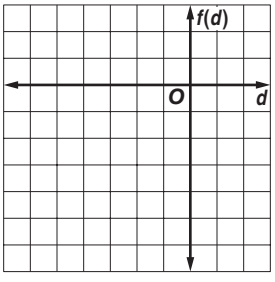
5. $p^2 + 4p + 2 = 0$



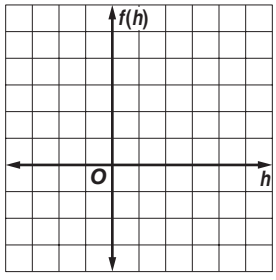
6. $x^2 + x - 3 = 0$



7. $d^2 + 6d = -3$



8. $h^2 + 1 = 4h$



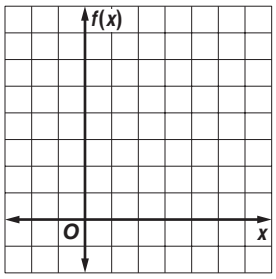
NAME _____ DATE _____ PERIOD _____

9-2 Practice

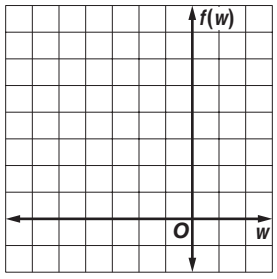
Solving Quadratic Equations by Graphing

Solve each equation by graphing.

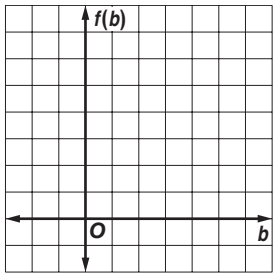
1. $x^2 - 5x + 6 = 0$



2. $w^2 + 6w + 9 = 0$

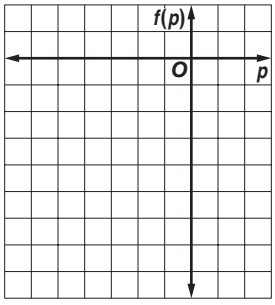


3. $b^2 - 3b + 4 = 0$

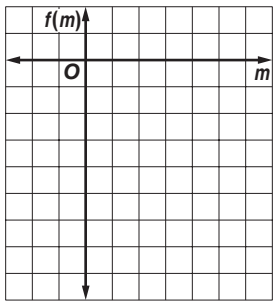


Solve each equation by graphing. If integral roots cannot be found, estimate the roots to the nearest tenth.

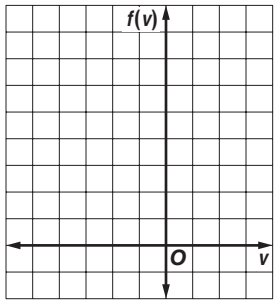
4. $p^2 + 4p = 3$



5. $2m^2 + 5 = 10m$



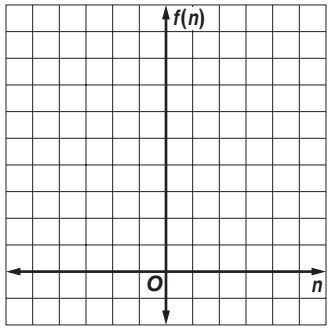
6. $2v^2 + 8v = -7$



7. NUMBER THEORY Two numbers have a sum of 2 and a product of −8. The quadratic equation $-n^2 + 2n + 8 = 0$ can be used to determine the two numbers.

a. Graph the related function $f(n) = -n^2 + 2n + 8$ and determine its x-intercepts.

b. What are the two numbers?



8. DESIGN A footbridge is suspended from a parabolic support. The function $h(x) = -\frac{1}{25}x^2 + 9$ represents the height in feet of the support above the walkway, where $x = 0$ represents the midpoint of the bridge.

9. Graph the function and determine its x-intercepts.

10. What is the length of the walkway between the two supports?