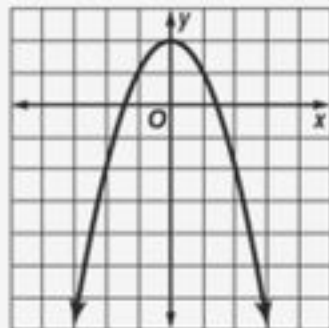


9-1**Practice****Graphing Quadratic Functions**

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

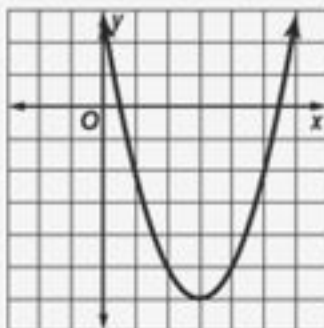
1. $y = -x^2 + 2$



D: {all real numbers}

R: $\{y \mid y \leq 2\}$

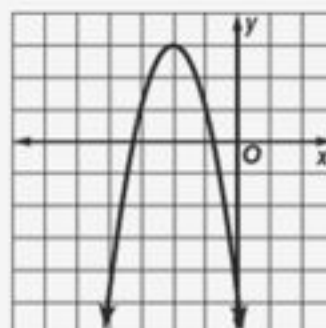
2. $y = x^2 - 6x + 3$



D: {all real numbers}

R: $\{y \mid y \geq -6\}$

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



D: {all real numbers}

R: $\{y \mid y \leq 3\}$

Find the vertex, the equation of the axis of symmetry, and the y-intercept of the graph of each function.

4. $y = x^2 - 9$

(0, -9); $x = 0$; (0, -9)

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

(2, 3); $x = 2$; (0, -5)

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

(0.5, 0); $x = 0.5$; (0, 1)

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

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

min.; (0.2, 1.8);

D: {all real numbers},

R: $\{y \mid y \geq 1.8\}$

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

max.; (2.5, -3.75);

D: {all real numbers},

R: $\{y \mid y \leq -3.75\}$

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

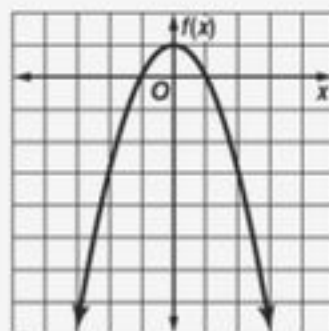
min.; $(-1\frac{1}{3}, -11\frac{2}{3})$

D: {all real numbers},

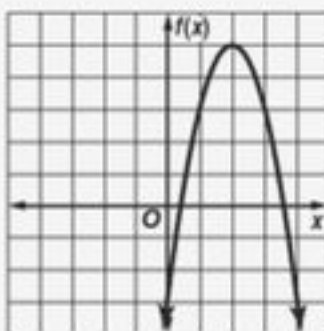
R: $\{y \mid y \geq -11\frac{2}{3}\}$

Graph each function.

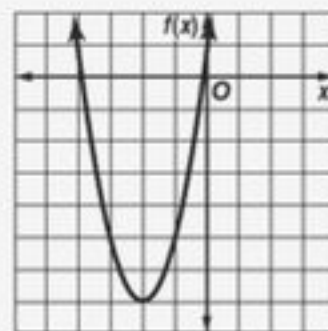
10. $f(x) = -x^2 + 1$



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



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



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

a. What is the equation of the axis of symmetry? **$x = 100$**

b. What is the maximum height reached by the baseball? **53 ft**

c. An outfielder catches the ball three feet above the ground. How far has the ball traveled horizontally when the outfielder catches it? **200 ft**