Complete parts a-c for each quadratic function.

a. Find the \(y\)-intercept, the equation of the axis of symmetry, and the \(x\)-coordinate of the vertex.
b. Make a table of values that includes the vertex.
c. Use this information to graph the function.
d. State the domain and range.

1. \(f(x) = -2x^2\)
2. \(f(x) = x^2 - 4x + 4\)

Determine whether each function has a maximum or a minimum value, and find that value. Then state the domain and range of the function.

3. \(f(x) = x^2 + 2x\)
4. \(f(x) = 3x^2 + 12x + 3\)
5. \(f(x) = -x^2 + 6x - 15\)

Graph the function.

6. \(y = -(x - 4)^2 - 4\)
7. \(y = -\frac{1}{2}(x + 2)^2\)
8. Which equation has the same vertex as the given graph?

A) \( f(x) = -3(x+1)^2 - 4 \)

B) \( g(x) = 2(x-1)^2 - 4 \)

C) \( h(x) = \frac{1}{2}(x-1)^2 + 4 \)

D) \( p(x) = -(x+1)^2 + 4 \)

9. What is the range of the graph below?

A) \( y \geq 5 \)

B) All real numbers

C) \( x \leq 5 \)

D) \( y \leq 5 \)

10. Which statement is NOT true about the function?

A) The function has a maximum value.

B) The domain is all real numbers.

C) The range is \( y \geq -9 \).

D) The y-intercept is \( (0, 0) \).

11. One function is defined as \( f(x) = (x-4)^2 + 10 \). Another function, \( h(x) \), is graphed below.

Which statement describing both graphs of \( f(x) \) and \( h(x) \) is true?

A) The parabolas have the same vertices.

B) The parabolas open upward.

C) The parabolas have the same y-intercept.

D) The parabolas have the same minimum value.