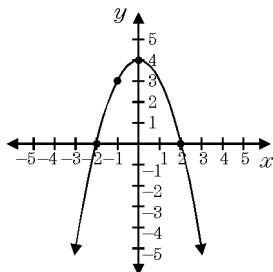


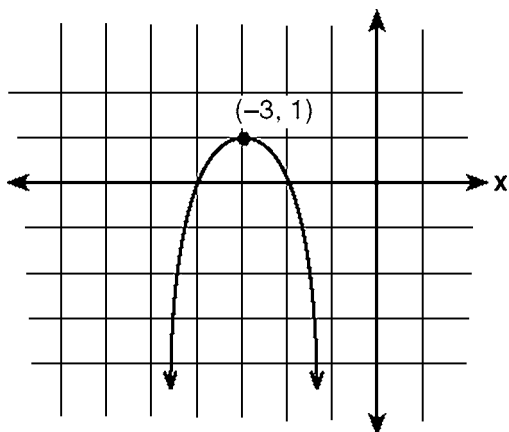
## Graphing Parabolas

1. Which is an equation of the parabola graphed in the accompanying diagram?

- A.  $y = x^2 + 4$
- B.  $y = x^2 - 4$
- C.  $y = -x^2 + 4$
- D.  $y = -x^2 - 4$

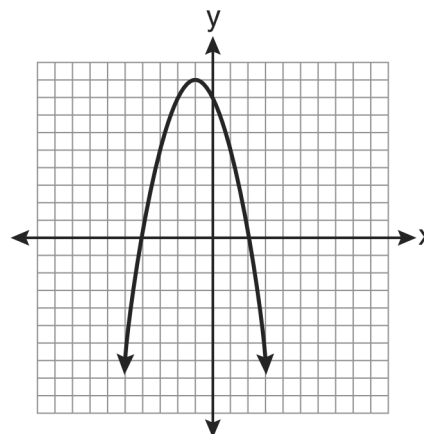


2. An equation of the axis of symmetry of the graph of  $y = x^2 + 6x + 9$  is  $x = -3$ . What is the y-coordinate of the turning point?
3. Which equation represents the parabola shown in the accompanying graph?



- A.  $f(x) = (x + 1)^2 - 3$
- B.  $f(x) = -(x - 3)^2 + 1$
- C.  $f(x) = -(x + 3)^2 + 1$
- D.  $f(x) = -(x - 3)^2 - 3$

4. The equation  $y = -x^2 - 2x + 8$  is graphed on the set of axes below.



Based on this graph, what are the roots of the equation  $-x^2 - 2x + 8 = 0$ ?

- A. 8 and 0
  - B. 2 and -4
  - C. 9 and -1
  - D. 4 and -2
5. Which is an equation of the axis of symmetry of the parabola whose equation is  $y = 2x^2 - 3x + 4$ ?
- A.  $x = -\frac{3}{4}$
  - B.  $x = \frac{3}{4}$
  - C.  $y = -\frac{3}{4}$
  - D.  $y = \frac{3}{4}$
6. If the turning point of a parabola is  $(4, -3)$  and the axis of symmetry is parallel to the y-axis, then the equation of the axis of symmetry is

- A.  $x = -3$
- B.  $y = -3$
- C.  $x = 4$
- D.  $y = 4$

## Graphing Parabolas

7. Which is true of the graph of the parabola whose equation is  $y = x^2 - 2x - 8$ ?
- A. The  $x$ -intercepts are at  $x = 2$  and  $x = -4$ .
  - B. The only  $x$ -intercept is at  $x = 4$ .
  - C. The  $x$ -intercepts are at  $x = 4$  and  $x = -2$ .
  - D. There are no  $x$ -intercepts.
8. The graph of which equation contains a maximum point?
- A.  $y = 2$
  - B.  $y = -2$
  - C.  $y = x^2$
  - D.  $y = -x^2$
9. What is the minimum point of the graph of the equation  $y = 2x^2 + 8x + 9$ ?
- A.  $(2, 33)$
  - B.  $(2, 17)$
  - C.  $(-2, -15)$
  - D.  $(-2, 1)$

1.  
Answer: C
2.  
Answer: 0
3.  
Answer: C
4.  
Answer: B
5.  
Answer: B
6.  
Answer: C
7.  
Answer: C
8.  
Answer: C
9.  
Answer: D