

## Ch. 6 Quadratic Functions

1. Which statement best describes how the coefficient  $a$  affects the parabola in the quadratic function  $y = ax^2 + bx + c$ ?

- (A) moves the graph  
(B) It is the  $y$ -intercept  
(C) determines the direction of opening  
(D) It is the axis of symmetry

2. Which is a quadratic function?

- (A)  $y = 5(x - 3) + 7$   
(B)  $y = 2(x - 3)^2(x + 1)$   
(C)  $y = 2x^2(x + 1)^2$   
(D)  $y = x(x + 1)$

3. Which quadratic function would represent the widest parabola when graphed?

- (A)  $y = \frac{1}{2}x^2 + 3x$   
(B)  $y = \frac{7}{2}x^2 - x + 10$   
(C)  $y = 4x^2 + 2x - 5$   
(D)  $y = x^2 + x$

4. A parabola has  $x$ -intercepts at  $-6$  and  $2$ . What is the equation of the axis of symmetry?

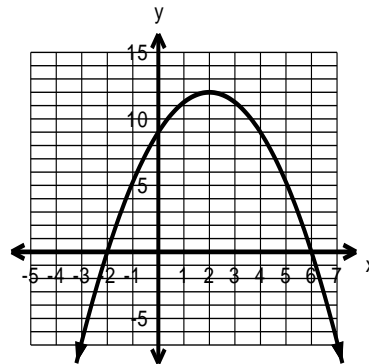
- (A)  $y = -2$   
(B)  $y = -4$   
(C)  $x = -2$   
(D)  $x = -4$

5. What is the  $y$ -intercept for the quadratic function  $y = 4(x - 1)(2x + 3)$ ?

- (A) 1  
(B)  $-3$   
(C)  $-12$   
(D) 0

6. What is the range for the graph?

- (A)  $y \leq 9$   
(B)  $y \leq 12$   
(C)  $-2 \leq y \leq 6, y \in R$   
(D)  $y \in R$



7. Which statement about the quadratic function  $y = 5x^2 + 7x - 11$  with vertex  $(-3, -27)$  is correct?

- (A) There is a minimum value of  $-27$ .  
(B) There is a minimum value of  $-3$ .  
(C) There is a maximum value of  $-27$ .  
(D) There is a maximum value of  $-3$ .

8. Which is the equation of the axis of symmetry for the function  $y = -3x^2 - 6x + 7$  ?

- (A)  $x = -1$             (B)  $x = 2$             (C)  $x = 1$             (D)  $x = -2$

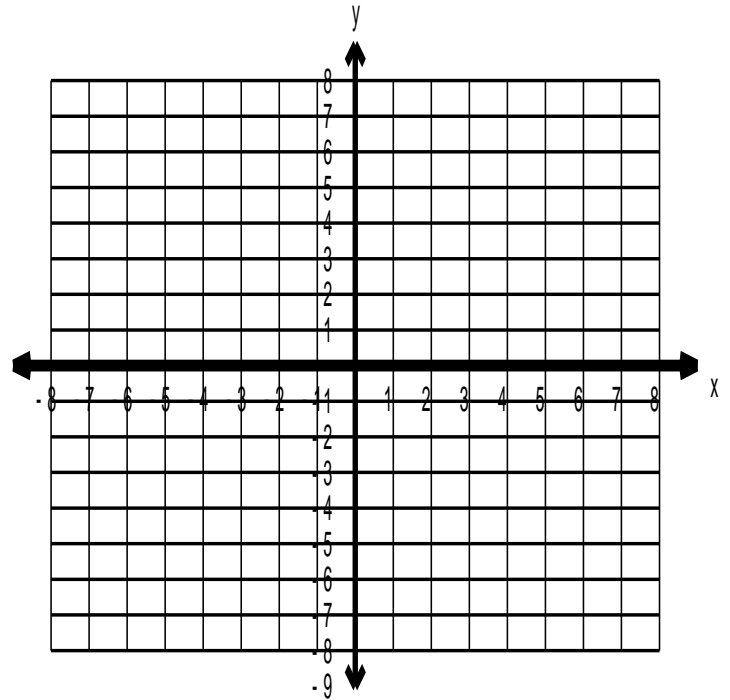
9. How many x - intercepts does the function  $y = -\frac{1}{3}x^2 - 2x - 7$ , with vertex  $(-3, -4)$  have?

- (A) 1            (B) 2            (C) 3            (D) none

10. Given the function  $y = -\frac{1}{2}x^2 - 4x - 2$  determine the following information and sketch the graph.

(A) Axis of Symmetry equation: \_\_\_\_\_

(B) Vertex: \_\_\_\_\_



(C) Is the vertex a maximum or minimum?

(D) Y-intercept: \_\_\_\_\_

(E) Domain: \_\_\_\_\_

(F) Range: \_\_\_\_\_