Name _____ Date _____ Class _____

CHAPTER 9

Chapter Test

Form A

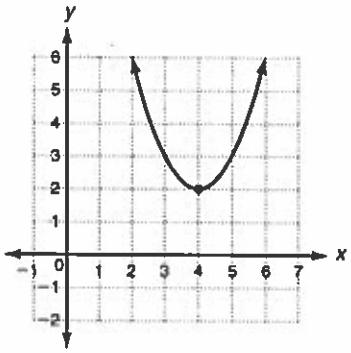
Select the best answer.

1. Which function is quadratic?

   A $3x - 2y = 5$

   B $5x^2 + x = y - 4$

2. The vertex of this parabola shows that the ____ value of the function is ____.



   A maximum, 2 **C** minimum, 2

   B maximum, 4 **D** minimum, 4

3. Which table of values would you use to graph $y = 3x^2$?

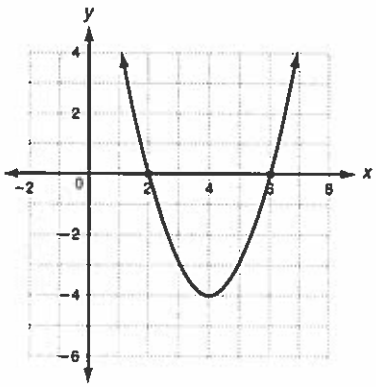
   A

x	−2	−1	0	1	2
y	12	3	0	3	12

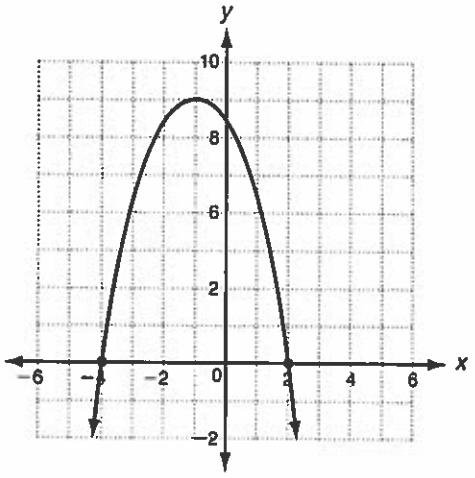
   B

x	−2	−1	0	1	2
y	36	9	0	9	36

4. Find the zeros of $y = x^2 - 8x + 12$ from its graph below.



5. Find the axis of symmetry of this parabola.

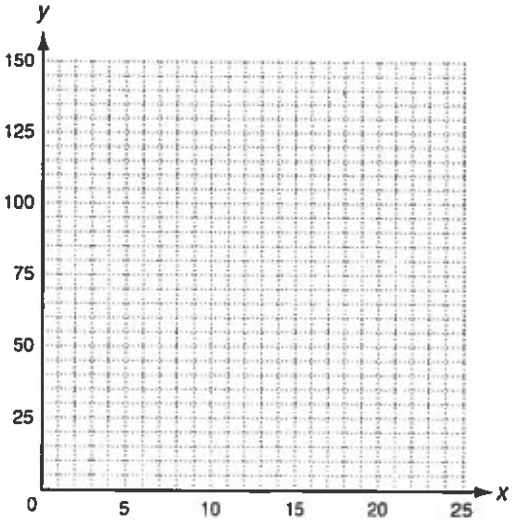


   A $x = -2$ **C** $x = 1$

   B $x = -1$ **D** $x = 3$

6. If you graph $y = x^2 - 6x + 9$, the y-intercept would be _____.

7. The height of a ball in feet is modeled by $f(x) = -16x^2 + 96x$, where x is the time in seconds after it is hit. How long is the ball in the air?



Name _____ Date _____ Class _____

CHAPTER 9

Chapter Test

Form A continued

8. Compare the graph of $g(x) = x^2 + 6$ with the graph of $f(x) = x^2$.

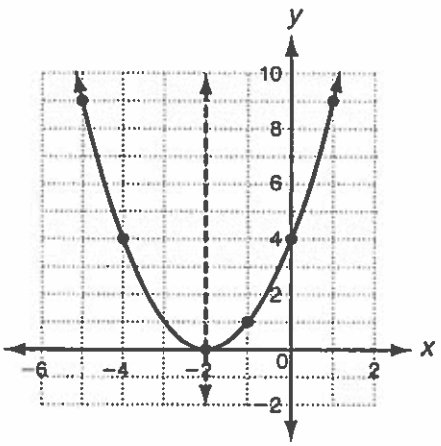
   A $g(x)$ is wider.

   B $g(x)$ is narrower.

   C $g(x)$ is translated 6 units down.

   D $g(x)$ is translated 6 units up.

9. Use this graph of the quadratic function $y = x^2 + 4x + 4$ to solve the equation $x^2 + 4x + 4 = 0$.



   A $x = -2$

   B $x = -3$ or $x = -1$

   C $x = -4$ or $x = 0$

   D $x = -5$ or $x = 1$

10. Solve $x^2 - 7x - 8 = 0$ by factoring.

11. A toy rocket is launched from a platform that is 10 meters high. The rocket's height above the ground is modeled by $h = -5t^2 + 5t + 10$, where h is height in meters and t is time in seconds. Find the time it takes the rocket to reach the ground.

12. Solve $x^2 = 9$ using square roots.

13. Which number completes the square to form a perfect square trinomial?

$$x^2 + 12x + \square$$

14. Solve $x^2 + 10x = 39$ by completing the square.

15. Solve $2x^2 + 9x + 4 = 0$ using the Quadratic Formula.

16. Find the number of real solutions of the equation $x^2 + 11x - 10 = 0$ using the discriminant.

Name _____ Date _____ Class _____

CHAPTER 9

Chapter Test

Form B

Select the best answer.

1. Which function is quadratic?

A

x	−4	−1	2	5
y	18	3	6	27

B

x	−3	−2	−1	0
y	−1	1	3	5

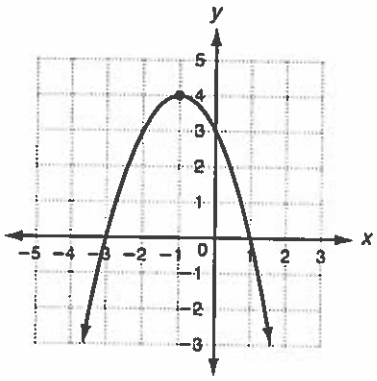
C

x	−2	0	2	4
y	−13	−5	3	59

D

x	1	5	9	13
y	2	−2	0	4

2. The vertex of this parabola shows that the ____ value of the function is ____.



3. Which table of values would you use to graph $y = x^2 + 3$?

A

x	−2	−1	0	1	2
y	−32	−1	0	1	32

B

x	−2	−1	0	1	2
y	1	4	9	16	25

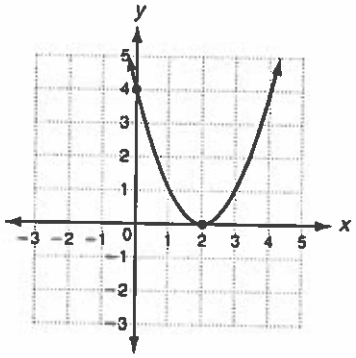
C

x	−2	−1	0	1	2
y	7	4	3	4	7

D

x	−2	−1	0	1	2
y	12	3	0	3	12

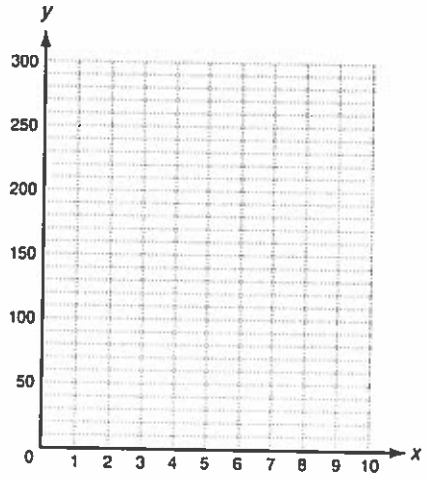
4. Find the zero(s) of $y = x^2 - 4x + 4$ from its graph below.



5. Find the axis of symmetry of the graph of $y = x^2 + 10x + 16$.

6. If you graph $y = 2x^2 - 8x - 10$, the y-intercept would be _____.

7. The height of a ball in feet is modeled by $f(x) = -16x^2 + 128x$, where x is the time in seconds after it is hit. How long is the ball in the air?



Name _____ Date _____ Class _____

CHAPTER 9 **Chapter Test**

Form B continued

8. Compare the graph of $g(x) = 6x^2$ with the graph of $f(x) = x^2$.

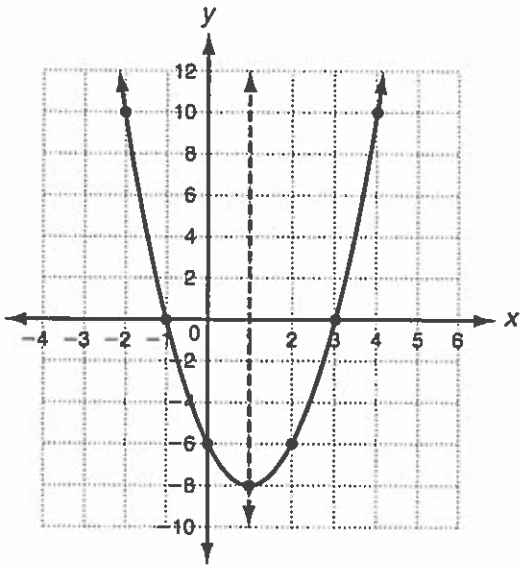
   F $g(x)$ is narrower.

   G $g(x)$ is translated up.

   H $g(x)$ is translated down.

   J $g(x)$ is wider.

9. Use this graph of the quadratic function $y = 2x^2 - 4x - 6$ to solve the equation $2x^2 - 4x - 6 = 0$.



10. Solve $x^2 - 12 = -4x$ by factoring.

11. A stunt diver jumps from the top of a 40-meter platform. The diver's height above the water is modeled by $h = -5t^2 + 10t + 40$, where h is height in meters and t is time in seconds. Find the time it takes the diver to reach the water.

12. Solve $9x^2 - 4 = 0$ using square roots.

13. Which number completes the square to form a perfect square trinomial?

$$x^2 + 7x + \square$$

14. Solve $x^2 + 8x + 18 = 0$ by completing the square.

15. Solve $3x^2 = 5x + 8$ using the Quadratic Formula.

16. Find the number of real solutions of the equation $x^2 + 10x + 35 = 0$ using the discriminant.