

Algebra 1

Practice Chapter 9 Test

NAME _____

Write the letter for the best answer. (3 Points each)

1. What is the equation of the axis of symmetry of $y = x^2 + 4x - 9$.

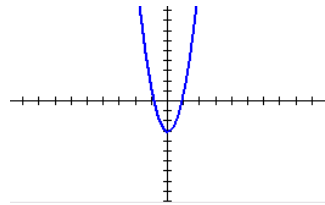
- A. $x = 4$ B. $x = -2$ C. $x = -4$ D. $x = 2$

2. Find the coordinates of the vertex of the graph of $y = x^2 - 3$. Identify the vertex as a maximum or a minimum.

- A. (0, -3) max B. (0, -3) min C. (-3, 0) max D. (-3, 0) min

3. What equation corresponds to the graph shown?

- A. $-\frac{1}{4}x^2 + 3$ B. $\frac{1}{4}x^2 - 3$
 C. $-4x^2 + 3$ D. $4x^2 - 3$

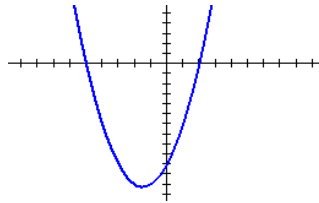


4. Find the coordinates of the vertex of the graph of $y = 3x^2 + 6x - 5$. Identify the vertex as a maximum or a minimum.

- A. (-1, -8) max B. (-1, -8) min C. (1, 4) max D. (1, 4) min

5. What are the root(s) of the quadratic equation whose related function whose graph is shown?

- A. 2, -5 B. (2, 0)(-5, 0)
 C. -2, 5 D. \emptyset



6. What are the root(s) of the quadratic equation?

$y = x^2 - x + 12$?

- A. (-4, 3) B. -3, 4
 C. (-3, -4) D. 3, -4

7. What are the root(s) of the quadratic equation $y = x^2 - 6x + 9$?

- A. 3, -3 B. -3
 C. 3 D. \emptyset

8. What are the root(s) of the quadratic equation $y = x^2 + 6x - 4$?

- A. 1, -6 B. 0.6, -6.6
 C. 1.6, 6.6 D. 1.6

1. _____
 2. _____
 3. _____
 4. _____
 5. _____
 6. _____
 7. _____
 8. _____

9. Without graphing, which is true about the quadratic equation $y = -2x^2 + 8$?
- A. up 8, vert. shrink, reflection B. up 8, vert. stretch, reflection
 C. down 8, vert. shrink, reflection D. down 8, vertical stretch, reflection

10. Without graphing, which is true about the quadratic equation $y = \frac{1}{3}x^2 - 4$?
- A. up 4, vert. shrink B. up 4, vert. stretch
 C. down 4, vert. shrink D. down 4, vertical stretch

11. Which value of c makes $x^2 - 10x + c$ a perfect square? 9. _____
- A. 25 B. -25 10. _____
 C. 100 D. -100

12. Which value of c makes $x^2 + 9x + c$ a perfect square? 11. _____
- A. $\frac{81}{4}$ B. $\frac{81}{2}$ 12. _____
 C. 81 D. 18 13. _____

13. Solve $x^2 - 4x + 4 = 9$ by completing the square. 14. _____
- A. -1, 5 B. 8.2, -4.7 15. _____
 C. -2, 10 D. 4, -10

14. Solve $x^2 - 6x + 9 = 16$ by completing the square. 16. _____
- A. $\frac{3}{4}, \frac{9}{4}$ B. 1, -7
 C. $-\frac{3}{4}, -\frac{9}{4}$ D. -1, 7

15. Solve $2x^2 + 7x + 11 = 15$ by completing the square.
- A. -4, 0.5 B. 3.3, -11.3
 C. 4, -0.5 D. -3.3, 11.3

16. Solve $2x^2 - 5x - 9 = -5$ by completing the square.
- A. 2.6, -14.6 B. -0.6, 3.2
 C. 4.8, -12.8 D. 3.7, -14.7

17. Solve $3x^2 - 6x - 27 = 45$ by completing the square.

A. 9.5, -7.5

B. 6, -4

C. 6.3, -4.3

D. 9, -12

18. Solve $x^2 - 8x - 4 = 0$ by using the Quadratic Formula.

A. 3.3, -1.3

B. -3.9, 1.9

C. -0.5, 8.5

D. 4.5, -12.5

19. Solve $x^2 + 7x - 8 = 0$ by using the Quadratic Formula.

A. $-\frac{5}{3}$, 1

B. -8, 1

C. $\frac{5}{3}$, -1

D. 8, -1

17. _____

18. _____

19. _____

20. Solve $2x^2 - x - 15 = 0$ by using the Quadratic Formula.

A. -1.2, 5.2

B. -4.9, 2.7

C. -4.9, 1.9

D. -2.5, 3

20. _____

21. _____

21. Solve $x^2 + 4x + 2 = 0$ by using the Quadratic Formula.

A. -2.3, 5.3

B. -0.6, -3.4

C. -1.5, 6.5

D. -5.8, -0.2

22. _____

23. _____

24. _____

22. Solve $x^2 + 3x - 12 = 0$ by using the Quadratic Formula.

A. -5.9, 2.9

B. 2.3, -5.3

C. -2.7, 0.7

D. \emptyset

25. _____

23. Solve $5x^2 + 13x + 5 = 0$ by using the Quadratic Formula.

A. -0.5, -2.1

B. -1.7, 2.6

C. -2.5, 0.2

D. \emptyset

24. Solve $5x^2 + 11 = 0$ by using the Quadratic Formula.

A. -2.9, 0.3

B. -4.8, 2.8

C. -2.5, 0.6

D. \emptyset

25. Solve $2x^2 + 6x - 17 = 0$ by using the Quadratic Formula.

A. -4.8, 1.8

B. -4, 1

C. -9.6, 3.6

D. \emptyset

26. Find the value of the discriminant of $x^2 + 5x + 7 = 0$ and determine the number of real solutions.

- A. 0 real Solutions B. 1 real Solution
 C. 2 real Solutions D. \emptyset

27. Find the value of the discriminant of $x^2 - 4x - 8 = 0$ and determine the number of real solutions.

- A. 0 real Solutions B. 1 real Solution
 C. 2 real Solutions D. \emptyset

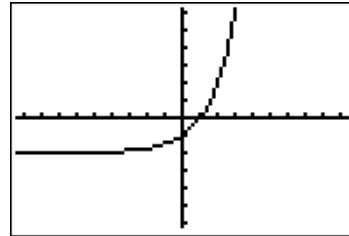
26. _____

27. _____

28. _____

28. Which equation corresponds to the graph?

- A. $y = 2^x + 1$ B. $y = 2^x - 1$
 C. $y = \left(\frac{1}{2}\right)^x + 1$ D. $y = \left(\frac{1}{2}\right)^x - 1$



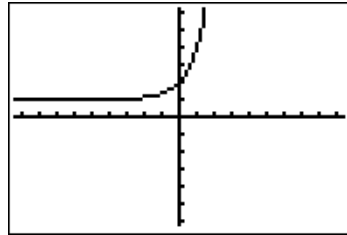
29. _____

30. _____

31. _____

29. Which equation corresponds to the graph?

- A. $y = 3^x + 2$ B. $y = 3^x - 2$
 C. $y = \left(\frac{1}{3}\right)^x + 2$ D. $y = \left(\frac{1}{3}\right)^x - 2$



30. Look for the pattern in the table to determine which model best describes the data.

x	-1	0	1	2	3	4
y	7	11	17	25	35	47

- A. linear B. quadratic C. exponential D. none of these

31. Look for the pattern in the table to determine which model best describes the data.

x	-1	0	1	2	3	4
y	13	18	23	28	33	38

- A. linear B. quadratic C. exponential D. none of these