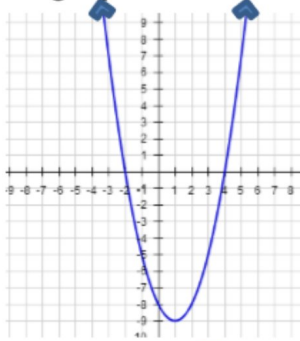


Quadratic Test Review

Quadratic Formula

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

Use the graph below for #1-6.



1. Is the graph quadratic linear, or neither?

2. What is the vertex? $(1, -9)$
Is it a maximum or minimum? *min*

3. What is the domain? \mathbb{R}

4. What is the range? $y \geq -9$

5. What is the axis of symmetry?

A. $x = -9$

C. $y = 1$

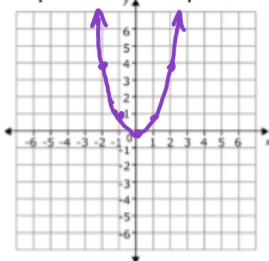
B. $x = 1$

D. $y = -9$

6. What are the roots? -2 and 4

7. What is the quadratic parent function equation? $y = x^2$

8. Graph the quadratic parent function.



Use the equation $y = -(x^2 + 2x + 3)$ to answer #9- 13. $-(x+3)(x+1)$

9. What are the zeros?

A. $\{1, 3\}$

B. $\{-1, 3\}$

C. $\{0, 0\}$

D. $\{-1, -3\}$

10. What is the vertex? $(1, 4)$

11. What is the axis of symmetry? $x = 1$

12. What is the domain? \mathbb{R}

13. What is the range? $y \leq 4$

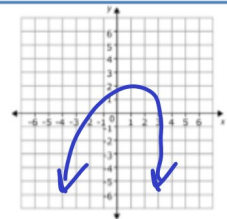
14. What are the solutions to quadratic function below? $x = 1$ $x = 6$

X	0	<u>1</u>	2	3	4	5	<u>6</u>
Y	6	<u>0</u>	-4	-6	-6	-4	<u>0</u>

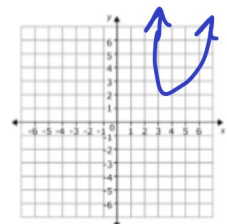
15. What are the x intercepts of the quadratic function below?

$y = (x + 8)^2$ $x = -8$

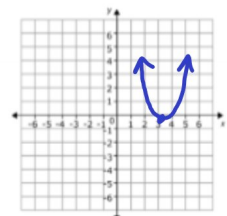
16. Sketch a parabola with two solutions.



17. Sketch a graph with no solutions.



18. Sketch a graph with one solution.



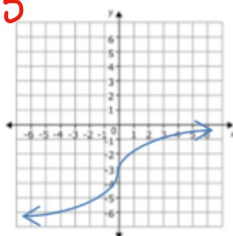
Identify if the following are linear, quadratic, or neither for #19-22.

19.

X	-6	-5	-4	-3	-2	-1	0
Y	7	5	3	1	-1	-3	-5

Linear
 $y = -2x - 5$

20.



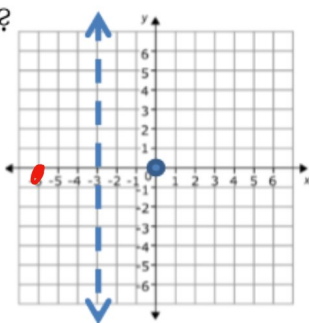
Neither

21. $y = x^3 + 2$ Neither

22. $y = 3(x + 1)^2 - 2$ Quadratic

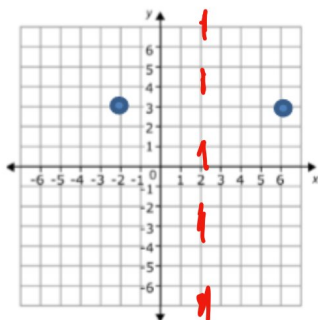
23. If the axis of symmetry is $x = -3$ and an x intercept is 0, what are the solutions to the quadratic graph?

0 and -6



24. If the following two points are on a parabola, what is the axis of symmetry?

$$\frac{-2 + 6}{2} = 2$$



25. Describe the transformation from the quadratic parent function to $y = \frac{2}{3}x^2 - 2$.

Compressed by $\frac{2}{3}$
 Translated 2 units down

26. If $y = x^2$ is changed to $y = -x^2 + 6$, describe the transformations.

reflect over x, up 6

27. If $f(x) = x^2 + 2$ is transformed to create the quadratic function $g(x) = 3x^2 - 4$, what transformations took place?

Stretch by 3, down 4

28. If the graph of $y = \frac{1}{5}x^2 + 4$ is made narrower and translated down three units, which of the following is a possible equation for the new graph?

A. $y = 2x^2 + 7$

C. $y = \frac{1}{5}x^2 + 1$

B. $y = 2x^2 + 1$

D. $y = x^2 + 7$

29. If the graph $y = -3x^2$ is transformed so it opens up and is wider, which of the following is a possible equation for the new graph?

A. $y = -x^2$

C. $y = 3x^2$

B. $y = \frac{1}{2}x^2$

D. $y = 5x^2$

30. If the -5 in $y = -x^2 - 5$ is changed to a positive number, what is the effect on the graph?

A. The graph gets wider

B. The graph gets narrower.

C. The graph translates up.

D. The graph is reflected.