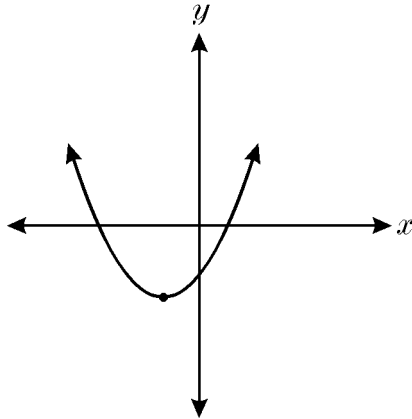


Graphing Special Functions (Unit 9)

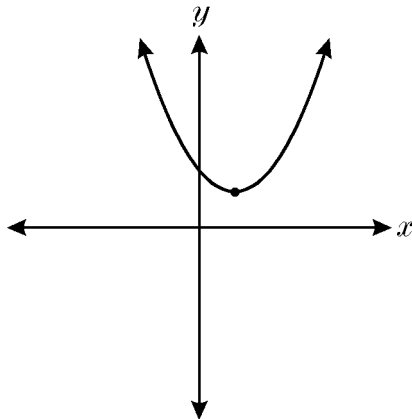
Name: _____

Date: _____

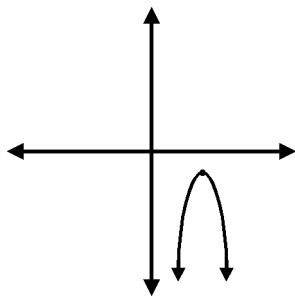
1. How many solutions are shown by the graph of the quadratic function?



2. How many solutions are shown by the graph of the quadratic function?

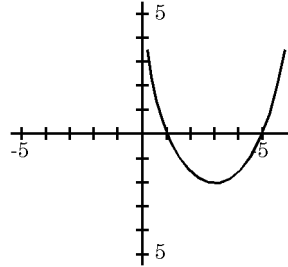


3. How many solutions are shown by the graph of the quadratic function?

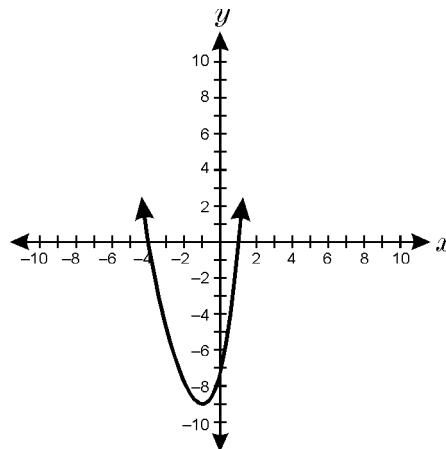


4. What are the roots of the graphed function?

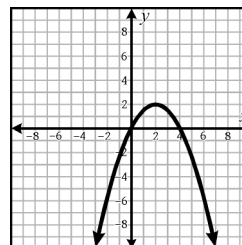
\emptyset



5. What are the solutions to the quadratic function in the graph?



6. What are the roots of the function whose graph is shown?



7. The table contains values for x and y in a quadratic function.

x	y
-3	12
-2	0
-1	-8
0	-12
1	-12
2	8
3	0

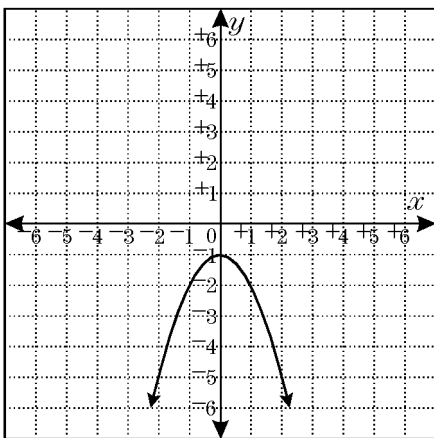
What are the roots of the function?

8. The table contains values for x and y in a quadratic function.

x	y
-1	0
0	10
1	16
2	18
3	16
4	10
5	0

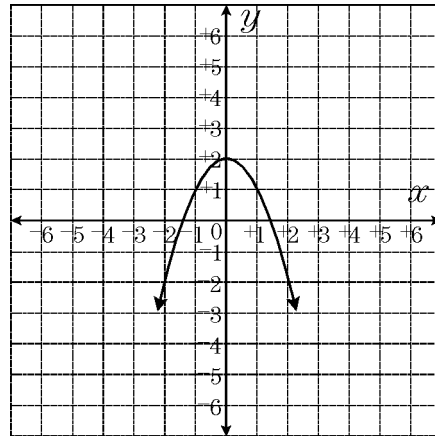
What are the roots of the function?

9. The graph of $y = -x^2 - 1$ is shown below.



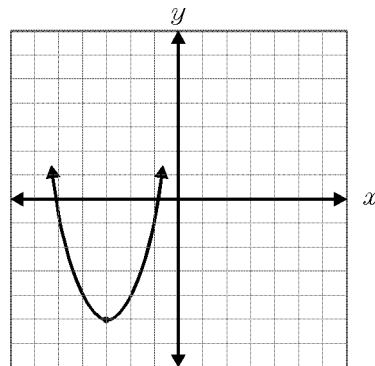
What is the *maximum*-value graphed?

10. The graph of $y = -x^2 + 2$ is shown below.



What is the *maximum*-value graphed?

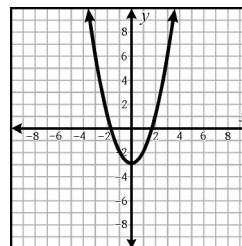
11. The graph of $y = (x + 3)^2 - 5$ is shown below.



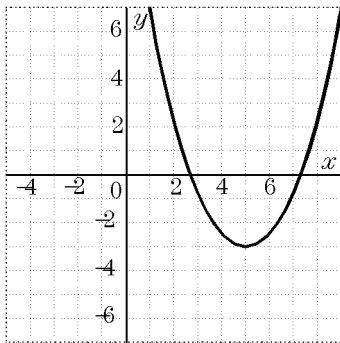
What is the *minimum* y -value graphed?

- A. -3 B. -5 C. -2 D. 0

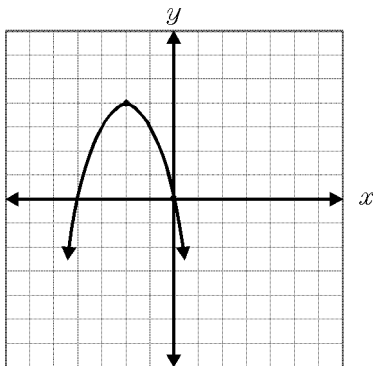
12. The graph of $y = x^2 - 3$ is shown. What is the *minimum*-value on the graph?



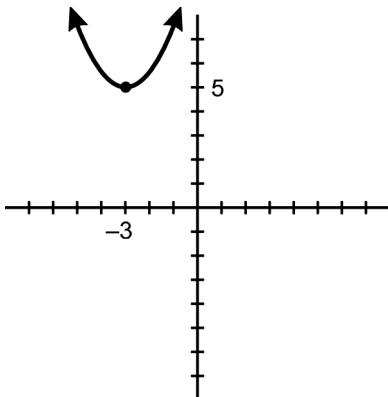
13. In the diagram, is the vertex a maximum or minimum point? What are the coordinates of the vertex?



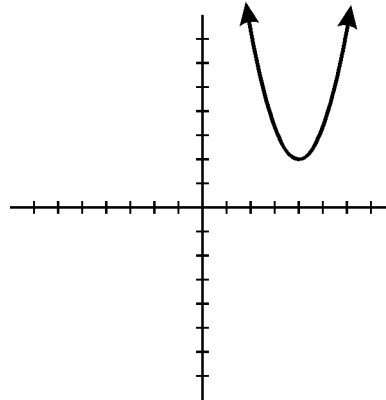
14. Is the vertex of the parabola shown in the graph a maximum or a minimum? What are the coordinates of the vertex?



15. Identify the line(s) of symmetry for the conic graphed below.



16. Identify the line(s) of symmetry for the conic graphed below.



17. Sketch the graph of $y = -2(x + 3)^2 + 1$.
18. Sketch the graph of $y = 2(x - 3)^2 + 4$.
19. Sketch the graph of a square root function.

20. Graph: $x = -\sqrt{25 - y^2}$

21. Graph: $y = \sqrt{16 - x^2}$

22. Graph: $x = -2 - \sqrt{9 - (y - 5)^2}$

23. Graph $f(x) = \begin{cases} -x - 3 & \text{if } x < 0 \\ 5 & \text{if } x = 0 \\ x^2 & \text{if } x > 0 \end{cases}$

24. Graph $f(x) = \begin{cases} -x^2 & \text{if } x < 0 \\ 2 & \text{if } x = 0 \\ 3x - 1 & \text{if } x > 0 \end{cases}$

25. Solve and graph: $|2x + 4| \leq -3$

26. Graph the solution: $|3x - 1| < 2$

27. Graph the following. Be sure to label important points.

$$y = |(x - 2)^3 + 1|$$

28. Graph the following. Be sure to label important points.

$$y = |(x + 3)^3 - 1|$$

29. Graph $f(x) = \begin{cases} -2 & \text{if } x < 0 \\ 1 & \text{if } x = 0 \\ x & \text{if } x > 0 \end{cases}$

30. Graph: $y = -1 - \frac{4}{3}\sqrt{9 - (x - 1)^2}$

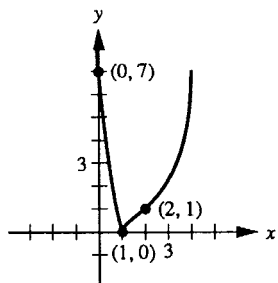
Graphing Special Functions (Unit 9) 10/1/2017

1.
Answer:
Objective: F.IF.4
2.
Answer:
Objective: F.IF.4
3.
Answer:
Objective: F.IF.4
4.
Answer:
Objective: F.IF.4
5.
Answer:
Objective: F.IF.4
6.
Answer:
Objective: F.IF.4
7.
Answer:
Objective: F.IF.4
8.
Answer:
Objective: F.IF.4
9.
Answer:
Objective: F.IF.4
10.
Answer:
Objective: F.IF.4
11.
Answer: B
Objective: F.IF.4
12.
Answer:
Objective: F.IF.4
13.
Answer:
Objective: F.IF.4
14.
Answer:
Objective: F.IF.4

15.
Answer:
Objective: F.IF.4
16.
Answer:
Objective: F.IF.4
17.
Answer: [graph]
Objective: F.IF.7A
18.
Answer: [graph]
Objective: F.IF.7A
19.
Answer: [graph]
Objective: F.IF.7B
20.
Answer: [graph]
Objective: F.IF.7B
21.
Answer: [graph]
Objective: F.IF.7B
22.
Answer: [graph]
Objective: F.IF.7B
23.
Answer: [graph]
Objective: F.IF.7B
24.
Answer: [graph]
Objective: F.IF.7B
25.
Answer: \emptyset ; [graph]
Objective: F.IF.7B
26.
Answer: $-\frac{1}{3} < x < 1$; [graph]
Objective: F.IF.7B

27.

Answer:



Objective: F.IF.7B

28.

Answer: [graph], (-3, 1), (-2, 0), (0, 26)

Objective: F.IF.7B

29.

Answer: [graph]

Objective: F.IF.7B

30.

Answer: [graph]

Objective: F.IF.7B