

Ready, Set, Go!

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Ready**Topic: Standard form of a quadratic equation**

The standard form of a quadratic equation is defined as
Identify a, b, and c in the following equations.

$$y = ax^2 + bx + c, (a \neq 0).$$

Example: Given $4x^2 + 7x - 6$, **a = 4, b = 7, and c = -6**

1. $y = 5x^2 + 3x + 6$

$a = \underline{\hspace{2cm}}$

$b = \underline{\hspace{2cm}}$

$c = \underline{\hspace{2cm}}$

2. $y = x^2 - 7x + 3$

$a = \underline{\hspace{2cm}}$

$b = \underline{\hspace{2cm}}$

$c = \underline{\hspace{2cm}}$

3. $y = -2x^2 + 3x$

$a = \underline{\hspace{2cm}}$

$b = \underline{\hspace{2cm}}$

$c = \underline{\hspace{2cm}}$

4. $y = 6x^2 - 5$

$a = \underline{\hspace{2cm}}$

$b = \underline{\hspace{2cm}}$

$c = \underline{\hspace{2cm}}$

5. $y = -3x^2 + 4x$

$a = \underline{\hspace{2cm}}$

$b = \underline{\hspace{2cm}}$

$c = \underline{\hspace{2cm}}$

6. $y = 8x^2 - 5x - 2$

$a = \underline{\hspace{2cm}}$

$b = \underline{\hspace{2cm}}$

$c = \underline{\hspace{2cm}}$

Multiply and write each product in the form $y = ax^2 + bx + c$. Then identify a, b, and c.

7. $y = x(x - 4)$

$a = \underline{\hspace{2cm}}$

$b = \underline{\hspace{2cm}}$

$c = \underline{\hspace{2cm}}$

8. $y = (x - 1)(2x - 1)$

$a = \underline{\hspace{2cm}}$

$b = \underline{\hspace{2cm}}$

$c = \underline{\hspace{2cm}}$

9. $y = (3x - 2)(3x + 2)$

$a = \underline{\hspace{2cm}}$

$b = \underline{\hspace{2cm}}$

$c = \underline{\hspace{2cm}}$

10. $y = (x + 6)(x + 6)$

$a = \underline{\hspace{2cm}}$

$b = \underline{\hspace{2cm}}$

$c = \underline{\hspace{2cm}}$

11. $y = (x - 3)^2$

$a = \underline{\hspace{2cm}}$

$b = \underline{\hspace{2cm}}$

$c = \underline{\hspace{2cm}}$

12. $y = -(x + 5)^2$

$a = \underline{\hspace{2cm}}$

$b = \underline{\hspace{2cm}}$

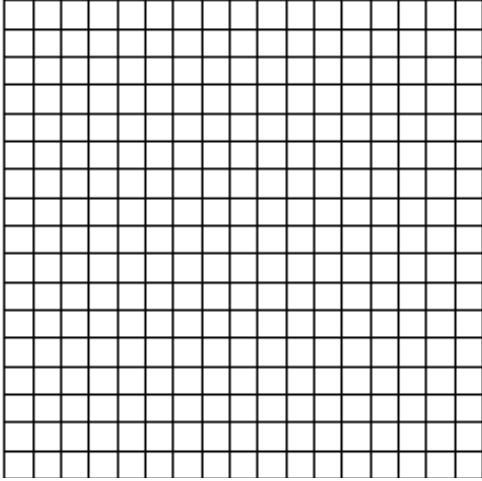
$c = \underline{\hspace{2cm}}$

Set

Topic: Graphing a standard $y = x^2$ parabola

13. Graph the equation $y = x^2$.

Include at least 3 accurate points on each side of the axis of symmetry.



a. State the vertex of the parabola.

b. Complete the table of values for $y = x^2$.

x	$f(x)$
-3	
-2	
-1	
0	
1	
2	
3	

Topic: Writing the equation of a transformed parabola in vertex form.

Find a value for ω such that the graph will have the specified number of x -intercepts.

14. $y = x^2 + \omega$
2 (x -intercepts)

15. $y = x^2 + \omega$
1 (x -intercept)

16. $y = x^2 + \omega$
no (x -intercepts)

17. $y = -x^2 + \omega$
2 (x -intercepts)

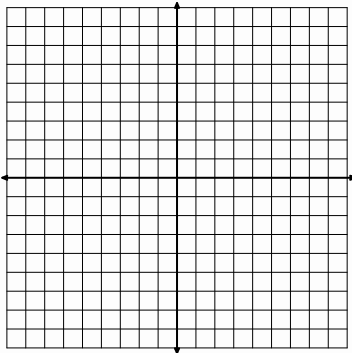
18. $y = -x^2 + \omega$
1 (x -intercept)

19. $y = -x^2 + \omega$
no (x -intercepts)

Graph the following equations. State the vertex.

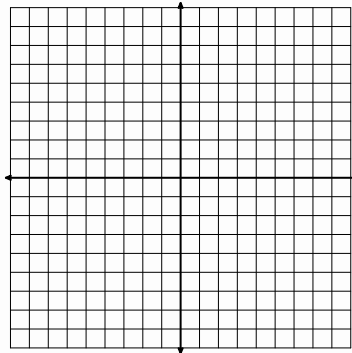
(Be accurate with your key points and shape!)

20. $y = (x - 1)^2$



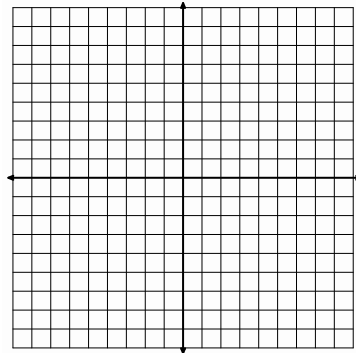
Vertex? _____

21. $y = (x - 1)^2 + 1$



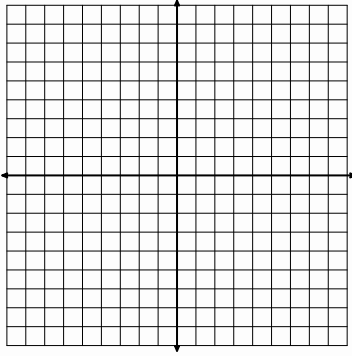
Vertex? _____

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



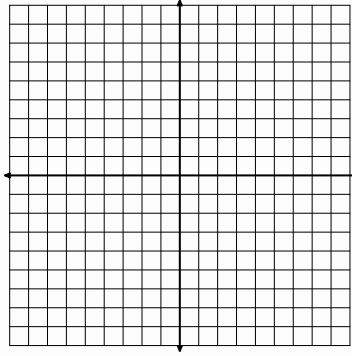
Vertex? _____

23. $y = (x + 3)^2$



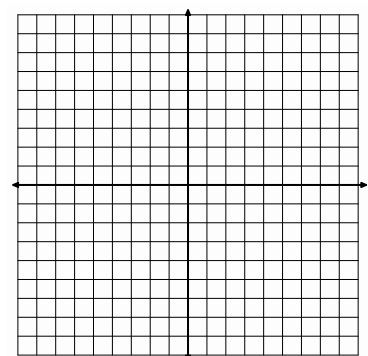
Vertex? _____

24. $y = -(x + 3)^2 - 4$



Vertex? _____

25. $y = -0.5(x + 1)^2 + 4$



Vertex? _____

Go**Topic: Features of a parabola.**

Use the table to identify the vertex, the equation for the axis of symmetry (AoS), and state the number of x-intercept(s) the parabola will have, if any. State whether the vertex will be a *minimum* or a *maximum*.

x	y
-4	10
-3	3
-2	-2
-1	-5
0	-6
1	-5
2	-2

a. Vertex: _____

b. AoS: _____

c. x-int(s): _____

d. MIN or MAX

x	y
-2	49
-1	28
0	13
1	4
2	1
3	4
4	13

a. Vertex: _____

b. AoS: _____

c. x-int(s): _____

d. MIN or MAX

x	y
-7	-9
-6	3
-5	7
-4	3
-3	-9
-2	-29
-1	-57

a. Vertex: _____

b. AoS: _____

c. x-int(s): _____

d. MIN or MAX

x	y
-8	-9
-7	-8
-6	-9
-5	-12
-4	-17
-3	-24
-2	-33

a. Vertex: _____

b. AoS: _____

c. x-int(s): _____

d. MIN or MAX