

READY, SET, GO!

Name _____

Period _____

Date _____

READY

Topic: Standard form of quadratic equations

The standard form of a quadratic equation is defined as $y = ax^2 + bx + c$, ($a \neq 0$).

Identify a , b , and c in the following equations.

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

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

$a =$ _____

$b =$ _____

$c =$ _____

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

$a =$ _____

$b =$ _____

$c =$ _____

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

$a =$ _____

$b =$ _____

$c =$ _____

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

$a =$ _____

$b =$ _____

$c =$ _____

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

$a =$ _____

$b =$ _____

$c =$ _____

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

$a =$ _____

$b =$ _____

$c =$ _____

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

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

$a =$ _____

$b =$ _____

$c =$ _____

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

$a =$ _____

$b =$ _____

$c =$ _____

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

$a =$ _____

$b =$ _____

$c =$ _____

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

$a =$ _____

$b =$ _____

$c =$ _____

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

$a =$ _____

$b =$ _____

$c =$ _____

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

$a =$ _____

$b =$ _____

$c =$ _____

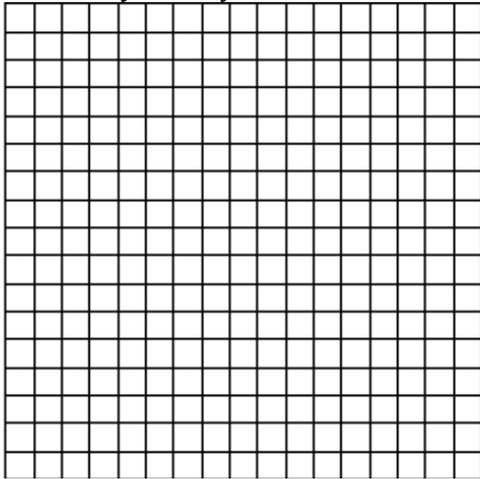
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SET

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)

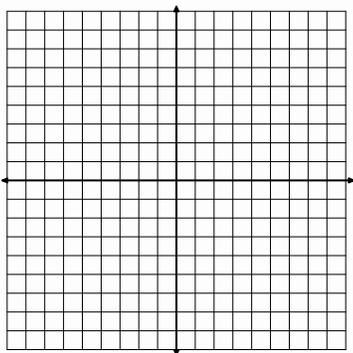
Graph the following equations. State the vertex.

(Be accurate with your key points and shape!)

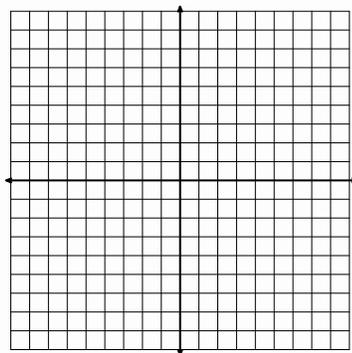
20. $y = (x - 1)^2$

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

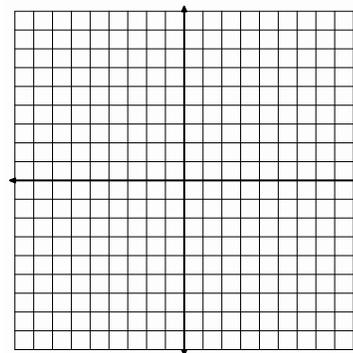
22. $y = 2(x - 1)^2 + 1$



Vertex? _____



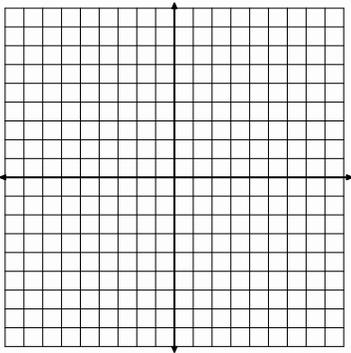
Vertex? _____



Vertex? _____

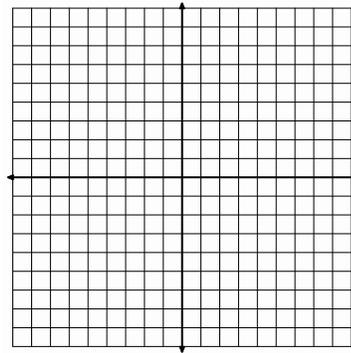
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23. $y = (x + 3)^2$



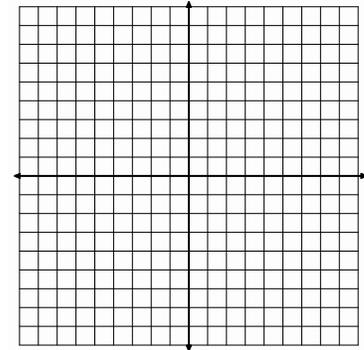
Vertex? _____

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



Vertex? _____

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



Vertex? _____

GO

Topic: Features of Parabolas

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*.

26.

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

27.

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

28.

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

29.

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

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