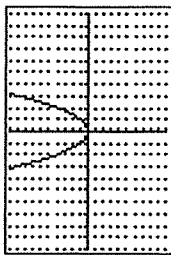


Study Guide

NAME: _____

VERTEX FORM PRACTICE #4

The graph of $y = x^2$ is shown below. The following equations are vertical and horizontal translations of $y = x^2$. Use what you have learned about translation of the vertex of a quadratic function to determine the vertex of the graph of each equation below. Check your answers on the graphing calculator.



Rewrite each function. Circle the h value and the k value.

1.) $y = (x - 3)^2 + 7$ Vertex: _____

2.) $y = (x + 4)^2 + 9$ Vertex: _____

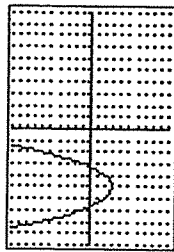
3.) $y = x^2 + 5$ Vertex: _____

4.) $y = (x - 6)^2$ Vertex: _____

5.) $y = (x + 2)^2 - 5$ Vertex: _____

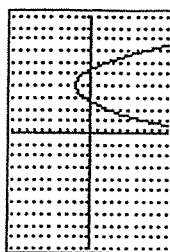
6.) $y = x^2 - 7$ Vertex: _____

What is the most likely equation of the parabola (quadratic function) that is graphed?



7.) Vertex: _____

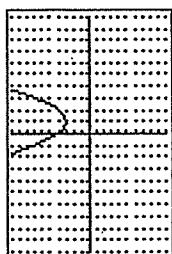
Quadratic Function in Vertex Form: _____



8.) Vertex: _____

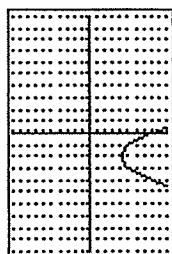
Quadratic Function in Vertex Form: _____

9.) Vertex: _____



Quadratic Function in Vertex Form: _____

10.) Vertex: _____

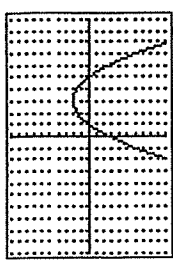


Quadratic Function in Vertex Form: _____

Match each equation from items #11 - #15 with its graph in column 2. Be sure to look at all the equations and compare them before you answer any questions. Notice, the only difference in all the equations is the value of a.

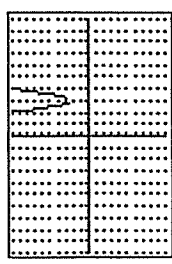
11.) $y = -2(x - 3)^2 + 2$

a.)



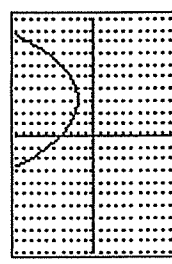
12.) $y = 2(x - 3)^2 + 2$

b.)



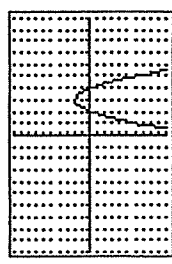
13.) $y = -.5(x - 3)^2 + 2$

c.)



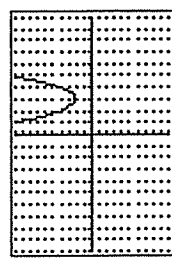
14.) $y = .25(x - 3)^2 + 2$

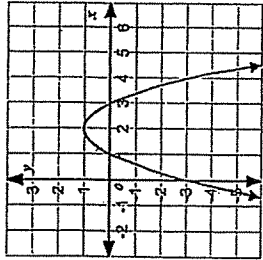
d.)



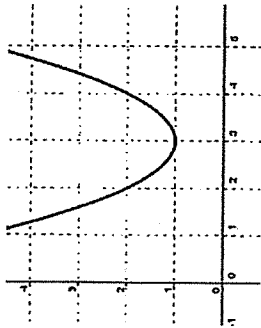
15.) $y = 8(x - 3)^2 + 2$

e.)

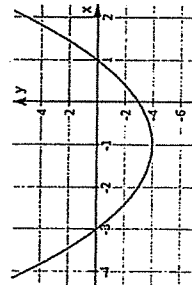




Zero(s):



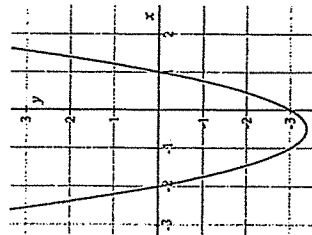
Vertex:



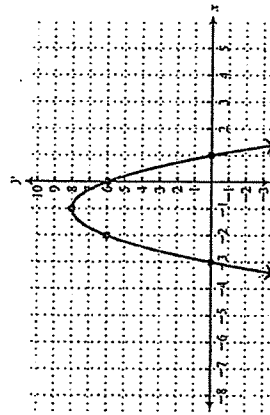
$$y = 5x^2 - 3x + 4$$

Name this function.

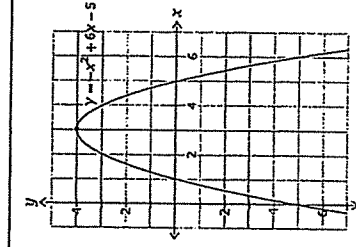
What is this graph called?



Y-intercept:



Maximum or minimum? (circle one)



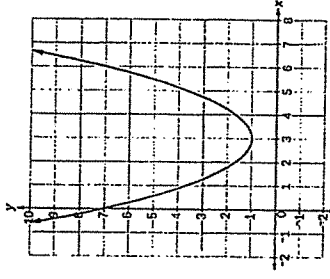
Vertex:

Zero(s):

Axis of Symmetry:

Y-intercept:

Maximum/ Minimum



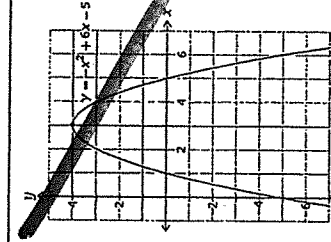
Vertex:

Zero(s):

Axis of Symmetry:

Y-intercept:

Maximum/ Minimum



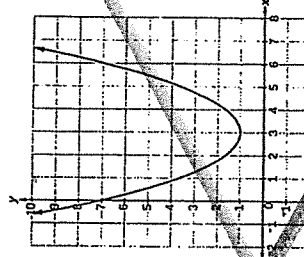
Vertex:

Zero(s):

Axis of Symmetry:

Y-intercept:

Maximum/ Minimum



Vertex:

Zero(s):

Axis of Symmetry:

Y-intercept:

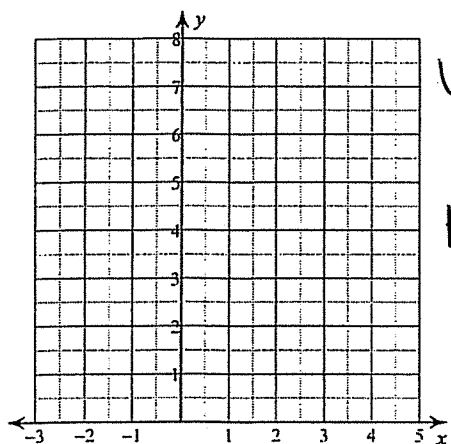
Maximum/ Minimum

Graphing Vertex Form

Period _____

Graph the vertex, Axis of Symmetry, and four points (2 from the table, 2 reflected)

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



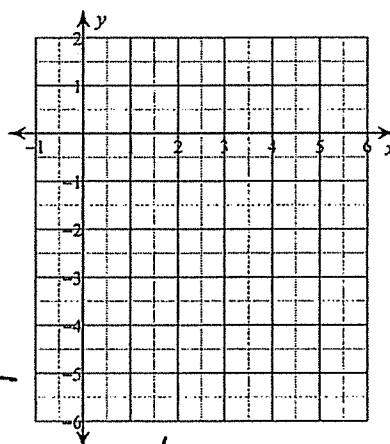
Vertex:

AOS:

x	y
-1	3
0	4

max/min

2) $y = (x - 4)^2 - 4$



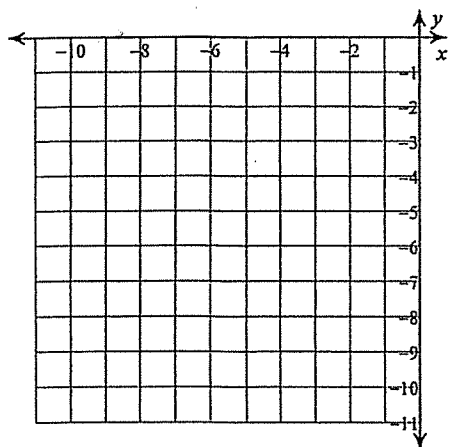
Vertex

AOS

x	y
4	-4
5	-3

max/min

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



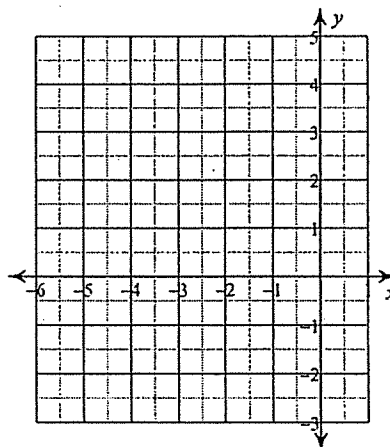
Vertex

AOS

x	y
-4	-2
-5	-10

max/min

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



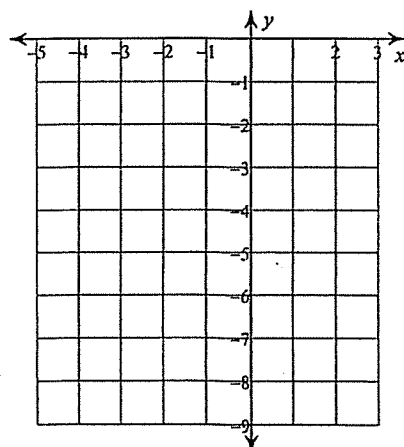
Vertex

AOS

x	y
-4	3
-5	2

max/min

5) $y = -(x - 1)^2 - 4$



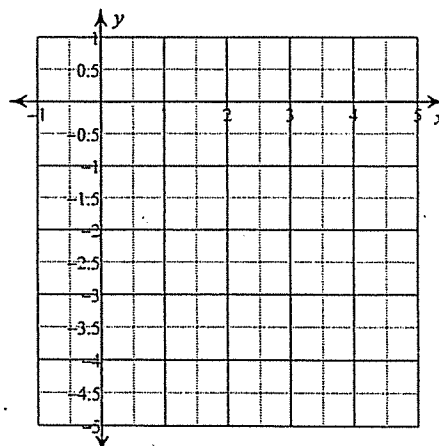
Vertex

AOS

x	y
1	-4
2	-5

max/min

6) $y = \frac{1}{3}(x - 3)^2 - 3$



Vertex

AOS

x	y
3	-3
4	-2.33

max/min