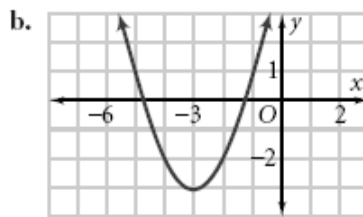
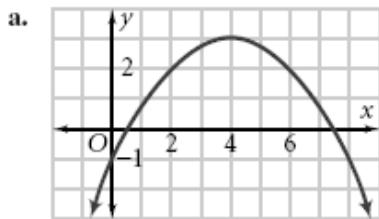


Unit 5 - Quadratic Functions

Day 10: Exploring Quadratic Graphs Notes (PH 10-1)

Example 1: Identify the vertex of each graph. Tell whether the function has a maximum or minimum. State what the maximum or minimum value of the function is. Identify the axis of symmetry (A.O.S.)



Example 2: Graphing $y = ax^2$. Make a table and graph each function. State the domain and range.

A. The **QUADRATIC** parent function is $y = x^2$

Vertex _____

A.O.S. _____

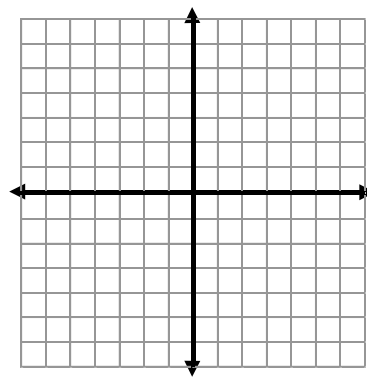
Opens Up or Down ?

Domain: _____

Range: _____

What is the MIN or MAX?

x	y
-2	
-1	
0	
1	
2	



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

Vertex _____

A.O.S. _____

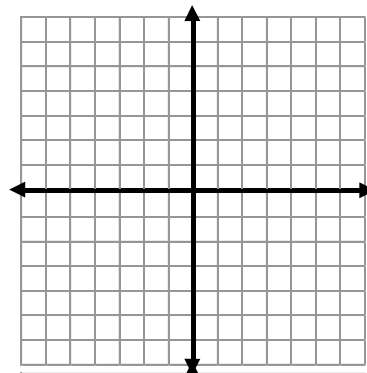
Opens Up or Down ?

Domain: _____

Range: _____

What is the MIN or MAX?

x	y
-2	
-1	
0	
1	
2	



C Graph $y = -2x^2$

Vertex _____

A.O.S. _____

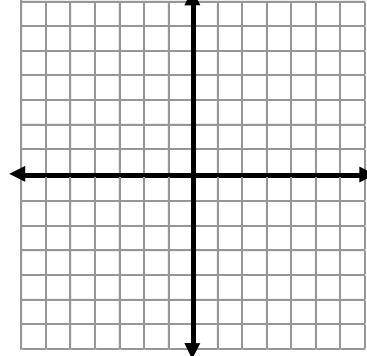
Opens Up or Down ?

Domain: _____

Range: _____

What is the MIN or MAX?

x	y
-2	
-1	
0	
1	
2	



Conclusion:

What does a positive “a” do to the graph?

What does negative “a” do?

Example 3: A. Order the quadratic functions from *widest* to *narrowest*. $y = x^2$, $y = \frac{1}{2}x^2$, $y = -2x^2$

_____, _____, _____

Conclusion: The closer “a” is to zero the _____ the graph is.

The farther “a” is from zero the _____ the graph is.

B. Order the quadratic functions from widest to narrowest. $y = \frac{3}{8}x^2$, $y = -\frac{1}{3}x^2$, $y = \frac{1}{4}x^2$

_____, _____, _____

Example 4: Graphing $y = ax^2 + c$. Make a table and graph each function on the same grid.

$y = 2x^2$

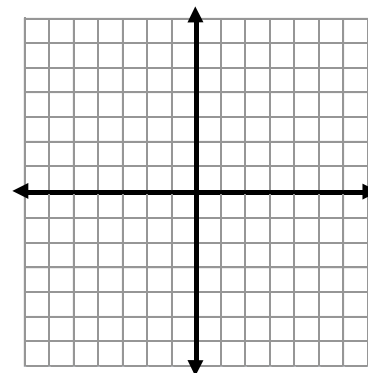
x	y
-2	
-1	
0	
1	
2	

$y = 2x^2 - 4$

x	y
-2	
-1	
0	
1	
2	

$y = 2x^2 + 1$

x	y
-2	
-1	
0	
1	
2	



Conclusion:

What does a positive “c” do the graph?

What does negative “c” do?

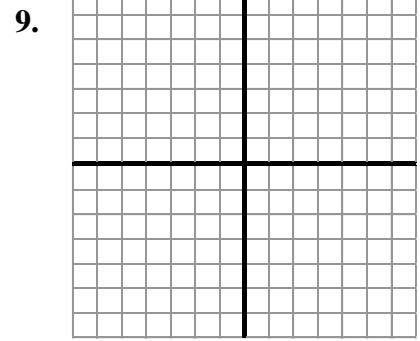
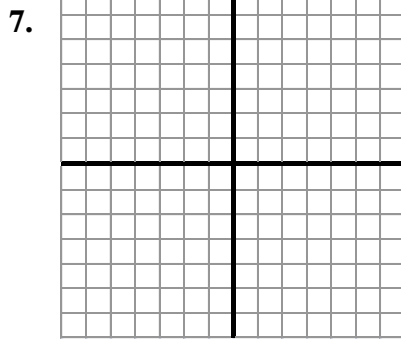
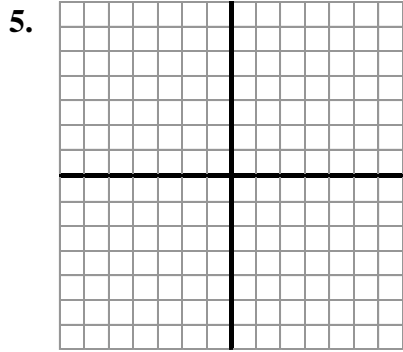
Homework: Page 513 – 515 #5, 7, 9 – 17, 20, and 38 (13 exercises)

Unit 5: Quadratic Functions

Day 10 Homework Page 513 – 515 #5, 7, 9 – 17, 20, and 38

Name: _____

Date: _____ Hour: _____

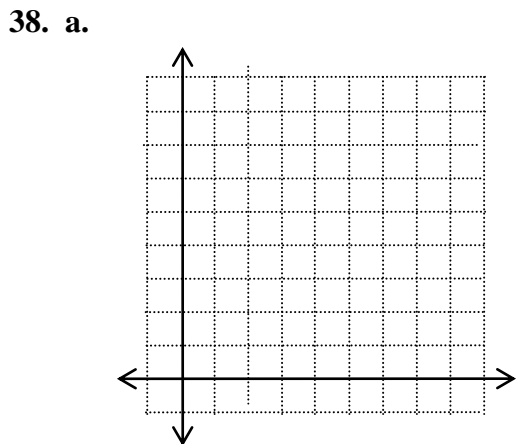
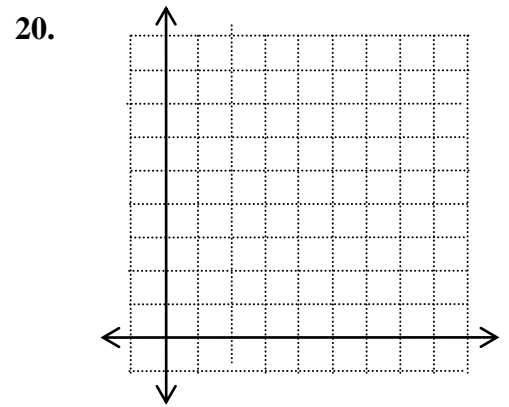
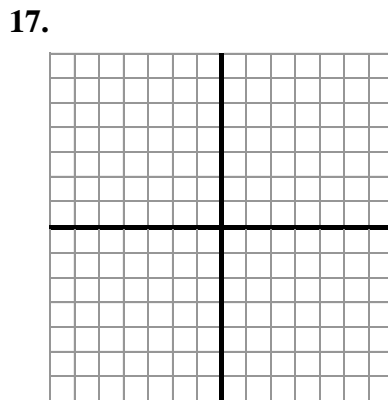
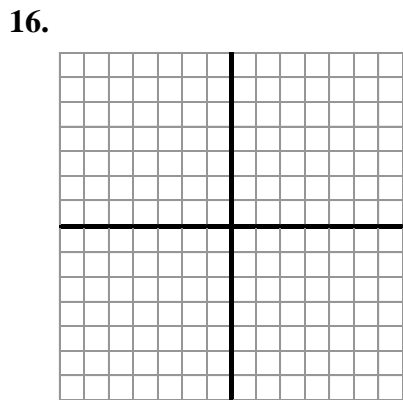
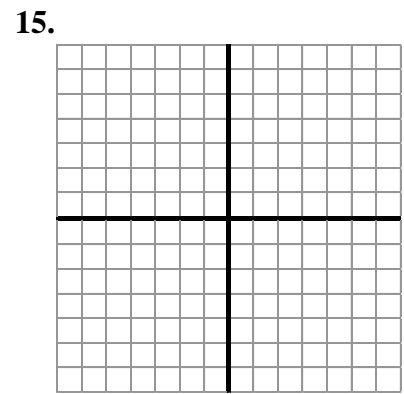
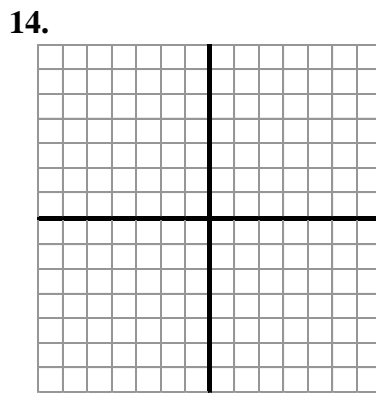


10. _____, _____, _____

11. _____, _____, _____

12. _____, _____, _____

13. _____, _____, _____



b.

c.