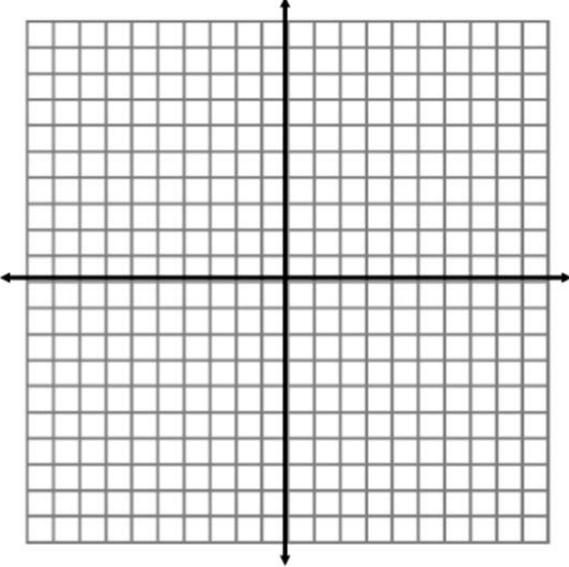
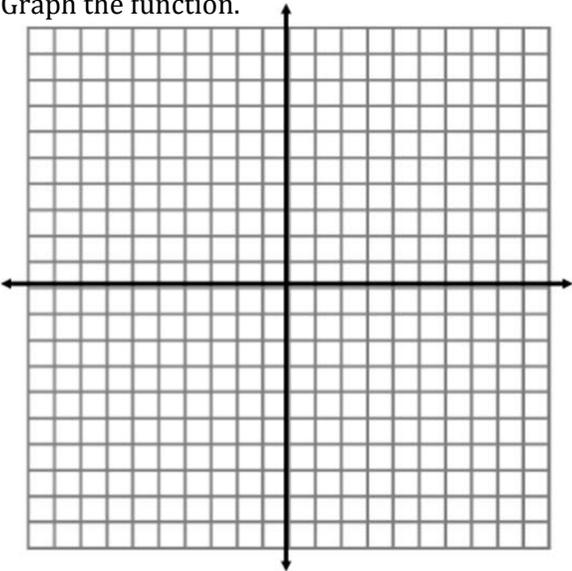


Unit 10 Review: Quadratics

NAME: _____ Period: _____

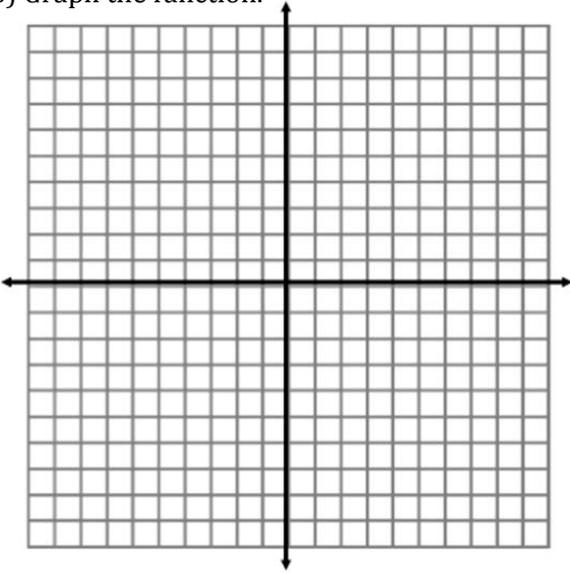
Directions: Complete #1-9. Then place all info on graph and sketch graph. +1 point for each.			
Equation in Standard Form:	$F(x) = x^2 - 2x - 8$	10)	
Equation in Factored Form:	1)		
x-intercepts:	2)		
y-intercept:	3)		
Leading Coefficient	4)		
Axis of Symmetry:	5)		
Point symmetric to y-intercept:	6)	Vertex represents a Minimum or Maximum:	8)
Parabola opens which way:	7)	Vertex:	9)

Directions: Use the function $f(x) = (x + 6)^2 - 5$ to answer the following questions.	
11) Graph the function. 	12) Put the function into standard form.
	13) Compare the function above to $f(x) = -2(x - 4)^2 - 8$, which of the following is true. <ul style="list-style-type: none"> a) This function is narrower, and opens in the same direction. b) This function is wider, and opens in the same direction. c) This function is narrower, and opens in the opposite direction. d) This function is wider, and opens in the opposite direction.

Directions: Use the following function for questions $f(x) = x^2 + 6x - 4$	
14) Create an equation in vertex form that will be WIDER than the above function.	15) Create an equation in standard form that will be NARROWER than the above function.

Directions: Use the function $f(x) = x^2 + 4x + 1$ to answer the following questions.

16) Graph the function.

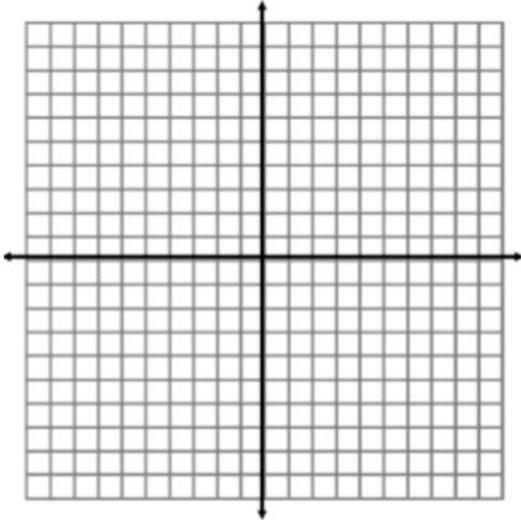


17) Compare the function to $f(x) = 2x^2 + 4x + 1$, which of the following is true.

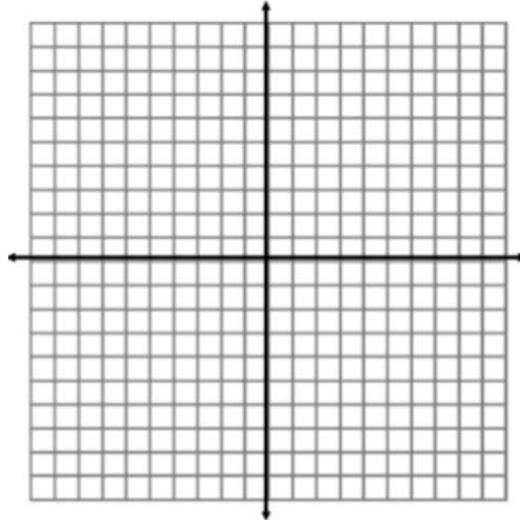
- a) This function has a lower minimum value, and is narrower.
- b) This function has a higher minimum value, and is narrower.
- c) This function has a lower minimum value, and is wider.
- d) This function has a higher minimum value, and is wider.
- e) This function has the same minimum value, and is narrower.
- f) This function has the same minimum value, and is wider.

Graph each of the following functions. Plot as many points as possible.

18) $f(x) = 0.5(x - 4)^2 + 1$



19) $y = -x^2 + 6x - 3$



Use the information given to answer the following questions. Round to nearest whole unit if it makes sense, if not, round to the nearest hundredth.

Mr. Brust is launching water balloons into the air from the top of the RHS roof. He calculates that the height of the balloons (in feet) as a function of the time (in seconds) can be modeled by the equation: $h(t) = -16t^2 + 45t + 25$. (Round to nearest hundredth)

20) What are the balloons' maximum heights?

21) How long will it take for the balloons to get to its maximum height?

22) How long will it take for the balloons to hit the ground?

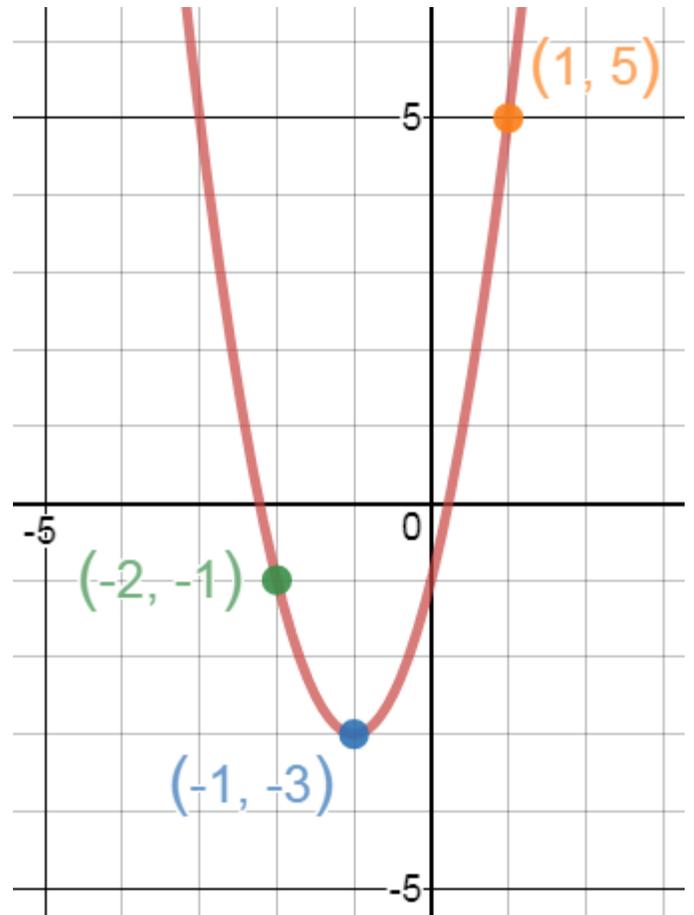
The point $(-1, -3)$ is the vertex of the graph of a quadratic function. Complete the graph by finding other points, and then answer the questions.

23) What is the y-intercept?

24) What are two other points? (They can't be shown or the y-intercept)

25) How do you know they are points on the graph?

26) What is the leading coefficient of the graph? How do you know?



Directions: Write the equation of each quadratic in VERTEX form.

27)

