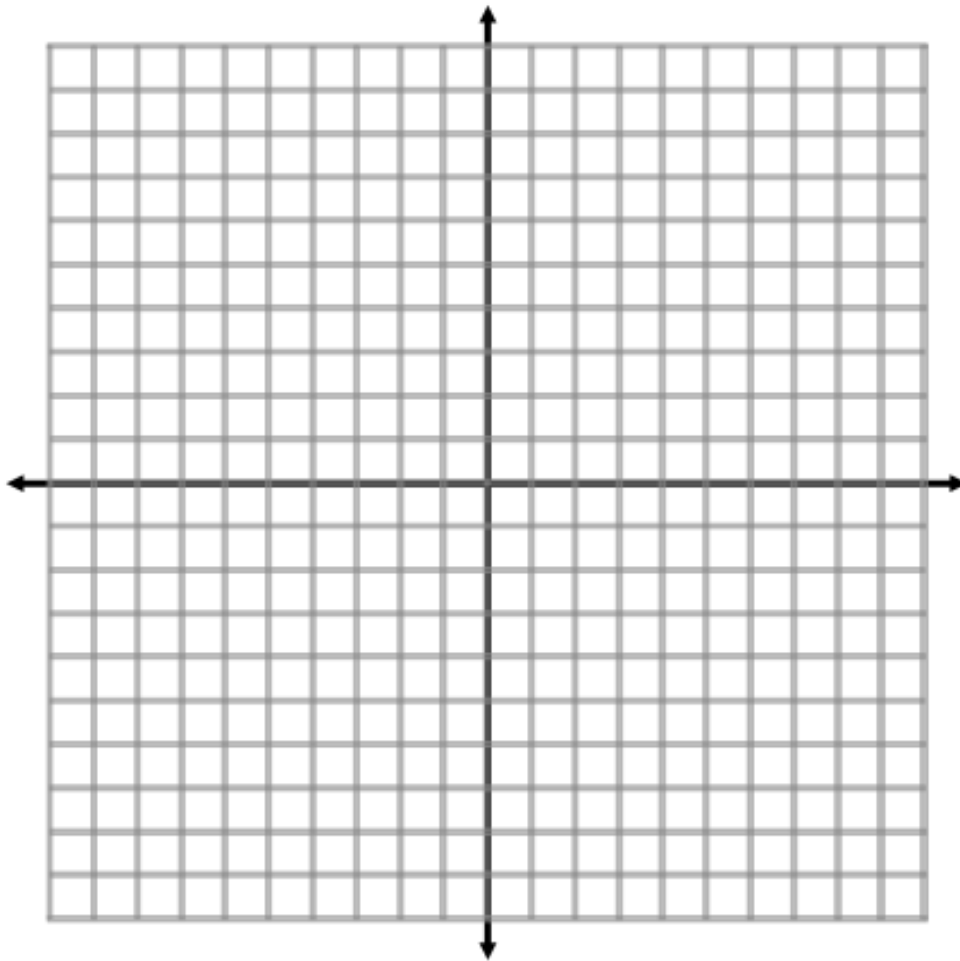


Name _____

Score _____/30

Directions: Graph each quadratic below by completing the function tables. Use a pencil for the first equation (called the parent graph), but then use a different color for the rest of the functions. Extend each graph past the ordered pairs to create a parabola. When you are finished, answer the questions and use good descriptions and vocabulary! (1 pt each graph)



x	$y = x^2$	$y = -x^2$	$y = 2x^2$	$y = \frac{1}{2}x^2$
-4				
-3				
-2				
-1				
0				
1				
2				
3				
4				

- A. Reflection over the y-axis
- B. Reflection over the x-axis
- C. Dilation to get larger/steeper
- D. Dilation to get smaller/less steep
- E. Vertical translation
- F. Horizontal translation

1. Match the graph with the transformation/s from the list above that best describes each function when compared to the original function. (1 pt each)

_____ $y = -x^2$

_____ $y = 2x^2$

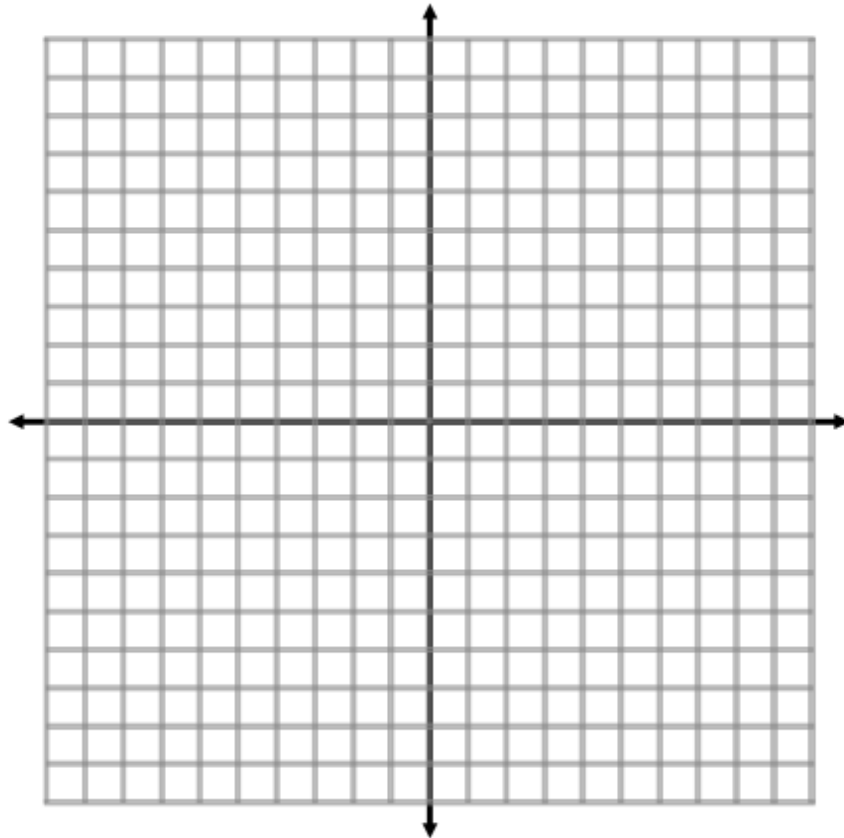
_____ $y = \frac{1}{2}x^2$

_____ $y = -\frac{1}{4}x^2$

_____ $y = -5x^2$

_____ $y = 1.5x^2$

x	$y = x^2$	$y = x^2 - 4$	$y = (x - 2)^2$	$y = (x - 2)^2 - 4$	$y = (-x - 2)^2 - 4$
-4					
-3					
-2					
-1					
0					
1					
2					
3					
4					



- Reflection over the y-axis
- Reflection over the x-axis
- Dilation to get larger/steeper
- Dilation to get smaller/less steep
- Vertical translation
- Horizontal translation

- Match the graph with the transformation/s from the list above that best describes each function when compared to the original function. (1 pt each)

_____ $y = x^2 - 4$

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

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

_____ $y = -.5(x)^2 - 1$

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

_____ $y = (-x)^2 - 7$

_____ $y = 2(x - 5)^2$

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

- Explain how the graph of $y = (-x - 2)^2 - 4$ compares to the graph $y = (x - 2)^2 - 4$. (1 pt)

- Describe how each change in $y = x^2$ would affect the graph of $y = x^2$. (1 pt each part)

a. $y = ax^2$

when $a > 1$

when $0 < a < 1$

when $a < 0$

b. $y = x^2 + k$

c. $y = (x + h)^2$

d. $y = (x + h)^2 + k$
