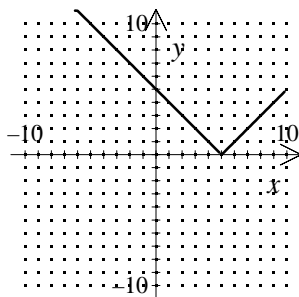


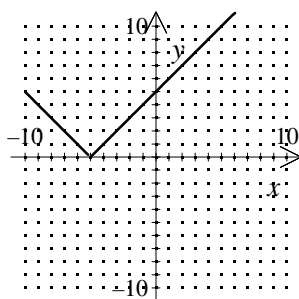
*P.I. A.G.4: Identify and graph linear, quadratic (parabolic), absolute value, and exponential functions*

1. Graph the function  $f(x) = |-x - 5|$ .

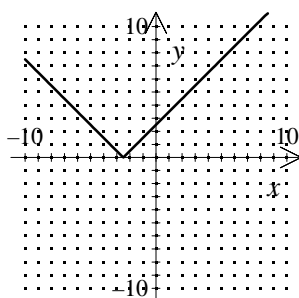
[A]



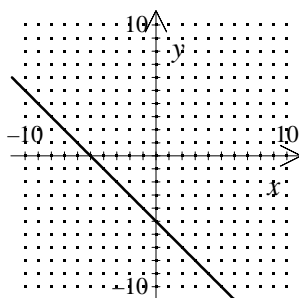
[B]



[C]

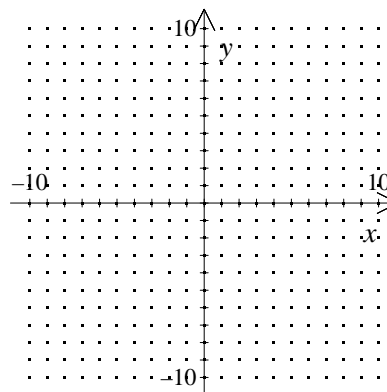


[D]



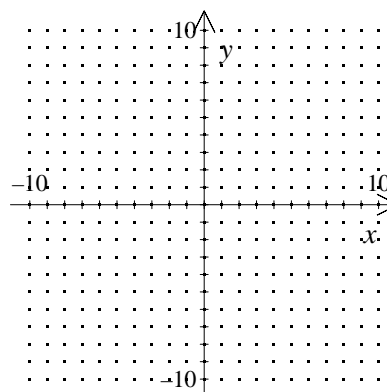
[1] \_\_\_\_\_

2. Graph the function  $f(x) = |-x - 4|$ .



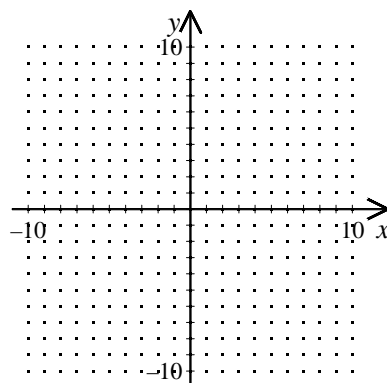
[2] \_\_\_\_\_

3. Graph the function  $f(x) = |x + 2|$ .



[3] \_\_\_\_\_

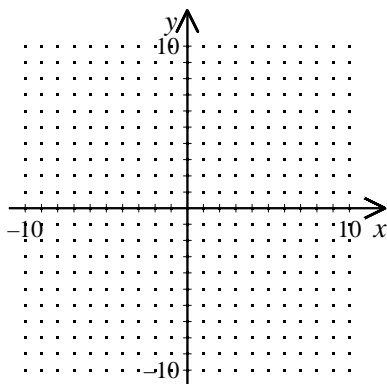
4. Graph the absolute value equation  $y = |x - 3|$ .



[4] \_\_\_\_\_

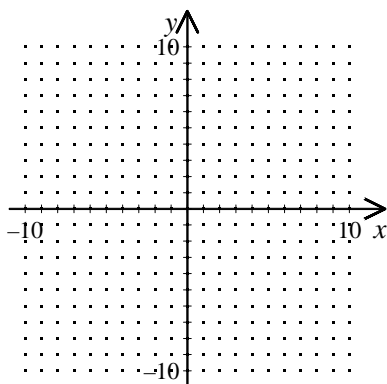
NAME: \_\_\_\_\_

5. Graph the absolute value equation  
 $y = |-x - 1|$ .



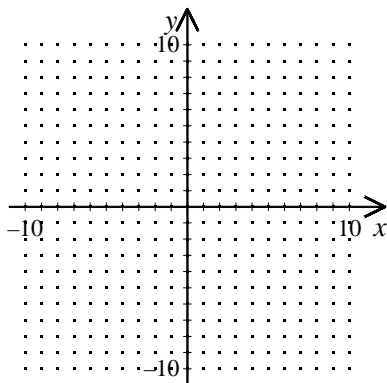
[5] \_\_\_\_\_

6. Use the graph of  $y = |x|$  to graph  $y = |x| - 2$ .



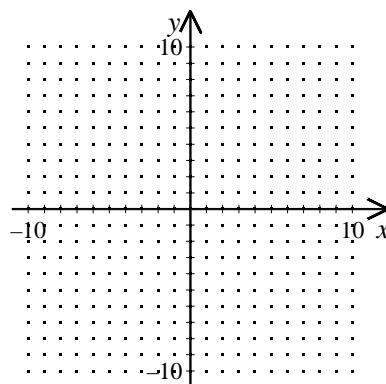
[6] \_\_\_\_\_

7. Use the graph of  $y = |x|$  to graph  
 $y = |x + 2| + 4$ .



[7] \_\_\_\_\_

8. Use the graph of  $y = |x|$  to graph  
 $y = |x - 2| - 1$ .

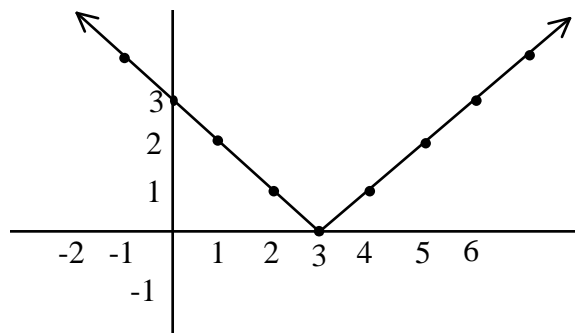


[8] \_\_\_\_\_

9. Graph the equations  $y = x$  and  $y = |x|$ . Give as many similarities and differences about these two graphs as you can.

[9] \_\_\_\_\_

10.



Which equation does the graph above represent?

[A]  $y = \frac{1}{3}x^2$

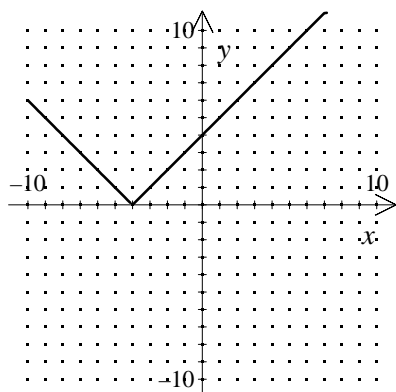
[B]  $y = |x - 3|$

[C]  $y = 3x^2$

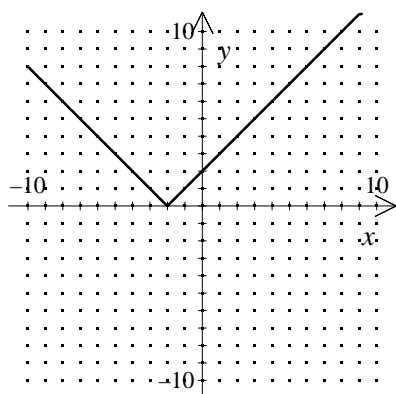
[D]  $y = 3 + |x|$

[10] \_\_\_\_\_

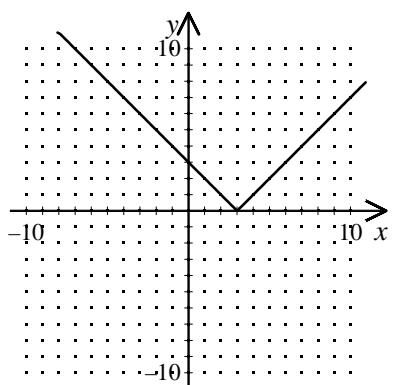
[1] B \_\_\_\_\_



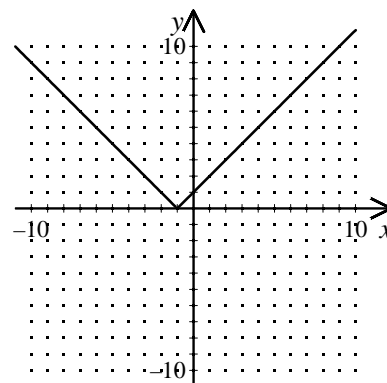
[2] \_\_\_\_\_



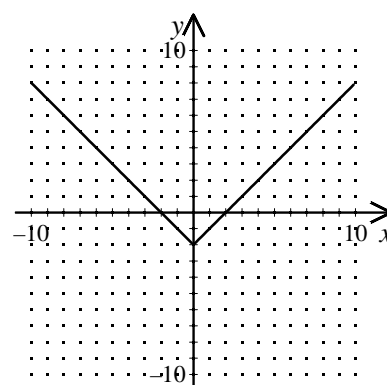
[3] \_\_\_\_\_



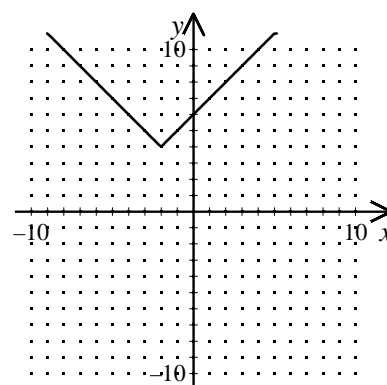
[4] \_\_\_\_\_



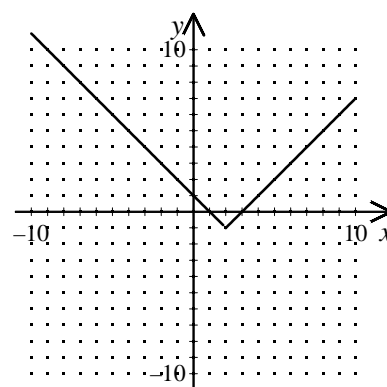
[5] \_\_\_\_\_



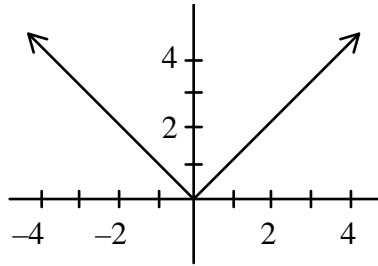
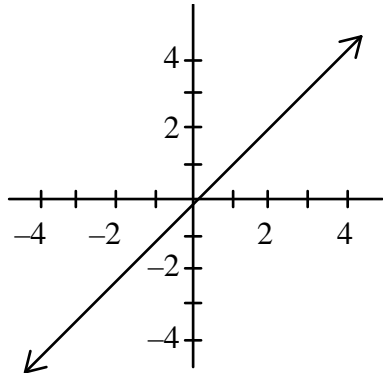
[6] \_\_\_\_\_



[7] \_\_\_\_\_



[8] \_\_\_\_\_



Similarities: Both go through the origin, both have one side of the graph in the first quadrant, both have the same steepness for the part in the first quadrant. Differences:  $y = x$  is in the first and the third quadrants,  $y = |x|$  is in the first and the second quadrants.  $y = x$  goes below the  $x$ -axis,  $y = |x|$  does not.

[9]  $y = x$  is a straight line,  $y = |x|$  is two line segments.

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[10] B