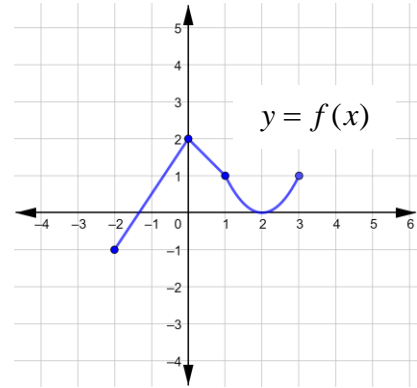


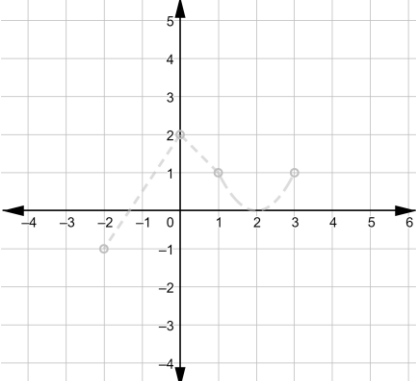
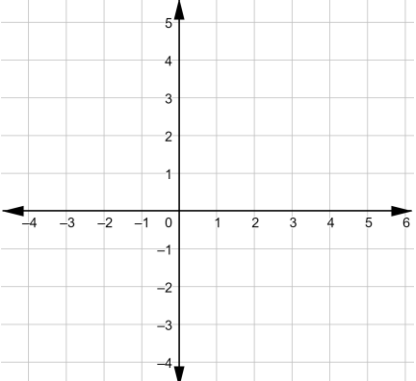
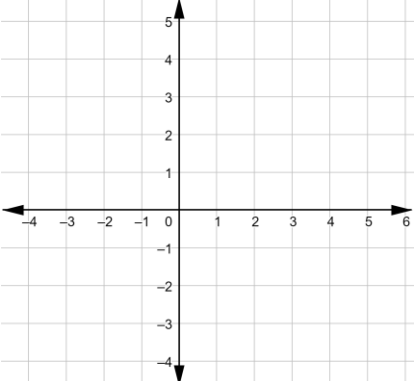
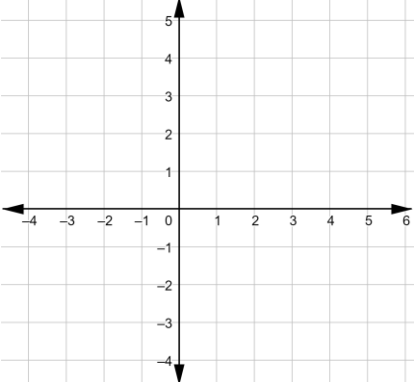
Learning Activity – Section 6.1 – Transformations of Graphs

Names: _____

1. In parts (a) to (f), use the graph of $y = f(x)$ to graph the given functions. In the middle column of the table, list the transformations of $y = f(x)$, in the appropriate order, required to obtain the graph.



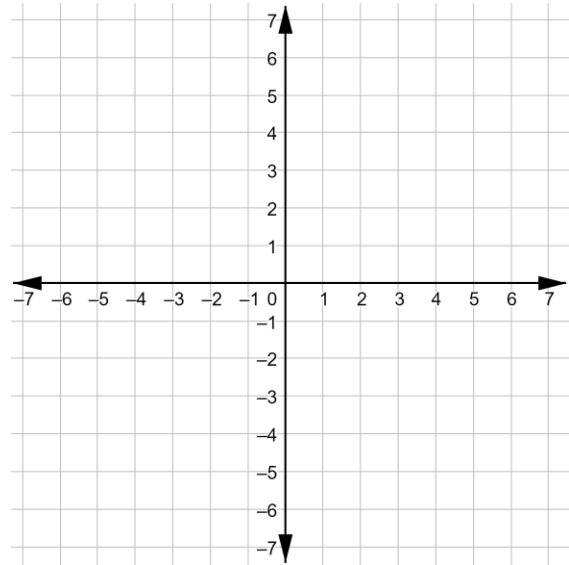
Function	Transformation (s)	Graph
a. $y = f(x-2)$		
b. $y = f(x)-3$		

<p>c. $y = f(x+2) + 3$</p>	<p>The graph of $y = f(x)$ is included to the right to prevent needing to look back at the graph on the previous page.</p> <hr/>	
<p>d. $y = -2f(x)$</p>		
<p>e. $y = f\left(\frac{1}{2}x\right)$</p>		
<p>f. $y = f(-x) + 3$</p>		

2. Use transformations to graph the function defined by $g(x) = \frac{1}{2}|x-4| + 2$. Identify the parent function. Then list the transformations applied to the parent function needed to obtain the graph of g in the appropriate order.

Parent function: _____

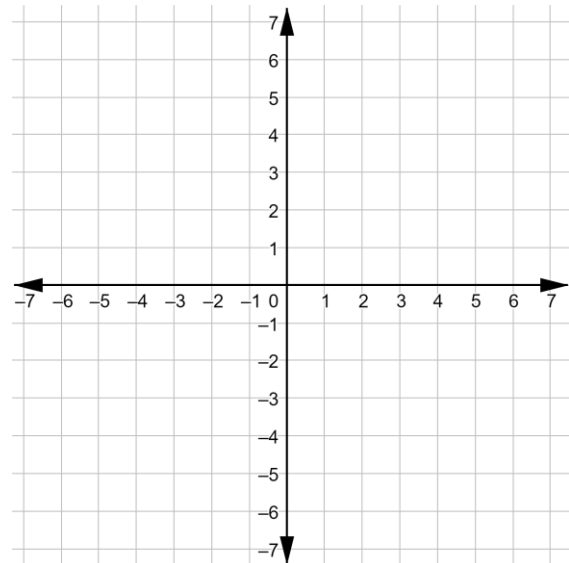
Transformations:



3. Use transformations to graph the function defined by $g(x) = (-x+3)^3 - 4$. Identify the parent function. Then list the transformations applied to the parent function needed to obtain the graph of g in the appropriate order.

Parent function: _____

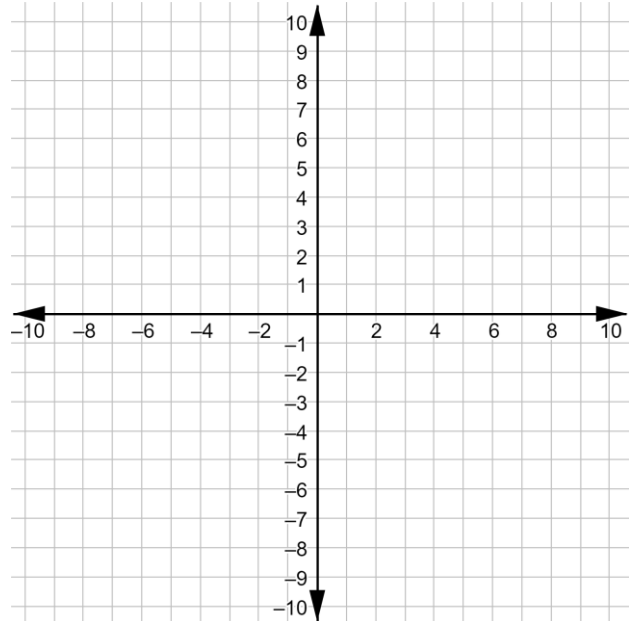
Transformations:



4. Use transformations to graph the function defined by $g(x) = -2\sqrt{x+2} - 3$. Identify the parent function. Then list the transformations applied to the parent function needed to obtain the graph of g in the appropriate order.

Parent function: _____

Transformations:



5. Write a function based on the given parent function and the transformations in the given order.

Parent function: $y = x^2$

Transformations:

1. Shift 5 units to the left.
2. Shrink vertically by a factor of $\frac{1}{3}$.
3. Reflect across the x -axis.