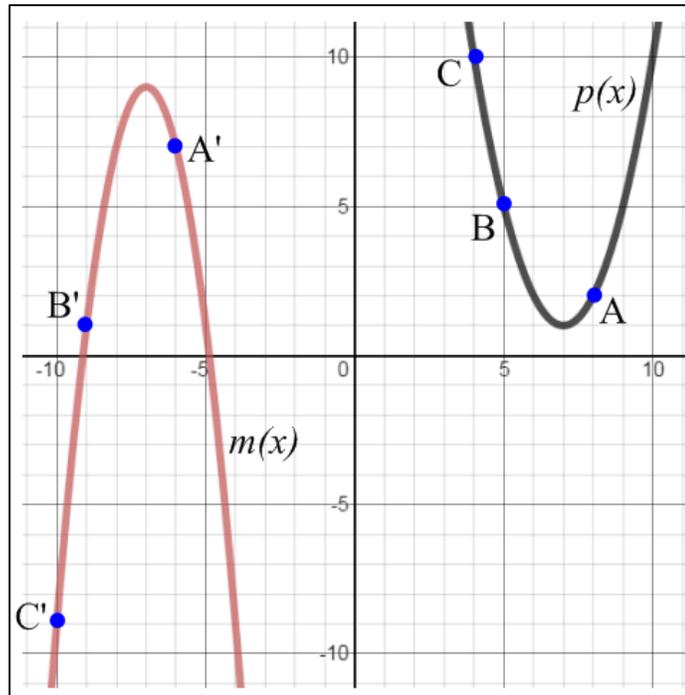


Name \_\_\_\_\_ Score \_\_\_\_\_/20

**Directions:** Follow along the video to complete the example below. Complete the problems on the back on your own.

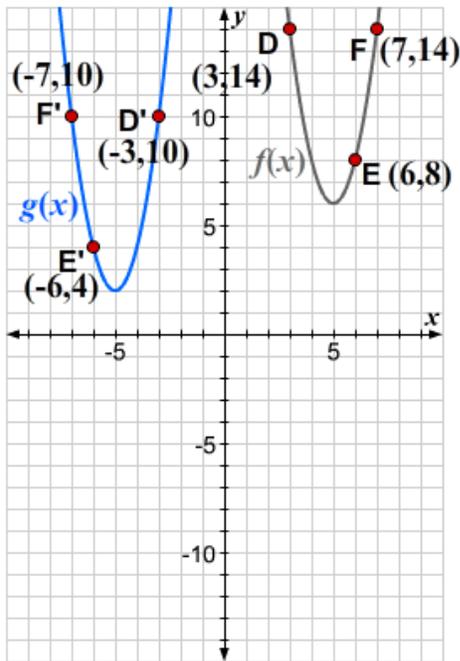
1. The graph of the quadratic  $p(x) = (x - 7)^2 + 1$  is shown. The graph of the new function  $m(x)$  is obtained by applying a transformation to graph of  $p(x)$ , which takes the points **A**, **B**, and **C** to the points **A'**, **B'**, and **C'**, respectively. (5 pts)



- a. Describe a series of transformations that gives the graph of the new function  $m(x)$ .

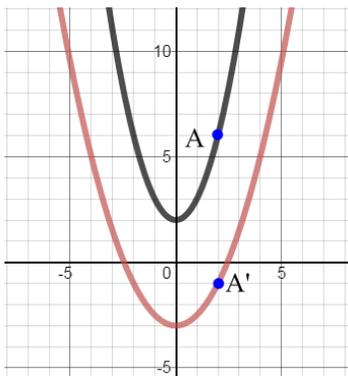
- b. Write an equation for  $m(x)$ .

2. The graph of the quadratic function  $f(x) = 2(x - 5)^2 + 6$  is shown. The graph of the new function  $g(x)$  is obtained by applying a transformation to graph of  $f(x)$ , which takes the points **D**, **E**, and **F** to the points **D'**, **E'**, and **F'**, respectively. (6 pts)

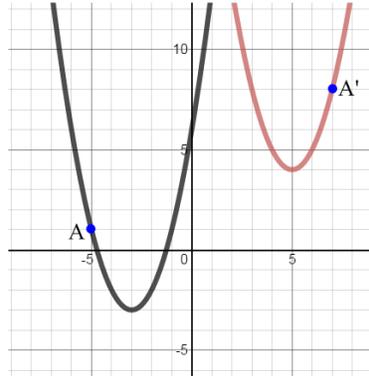


- Describe a series of congruence transformations that gives the graph of the new function  $g(x)$ .
- Write an equation for  $g(x)$ .
- Compare your equation for  $g(x)$  to the equation of the original function,  $f(x)$ . How do the differences in the equations reveal the transformations you described in part (a)?

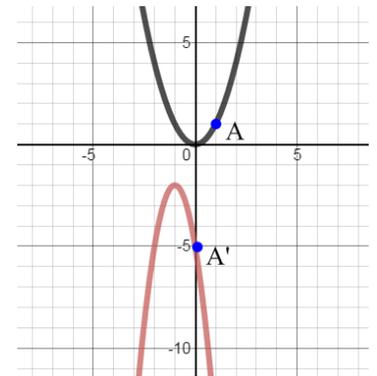
3. For each of the following, check all the transformations that could be used to get from **A** to **A'** in as few moves as possible. (3 pts each box)



- Reflection over the x-axis
- Reflection over the y-axis
- Dilation by a scale factor  $k > 1$
- Dilation by a scale factor  $0 < k < 1$
- Vertical translation
- Horizontal translation



- Reflection over the x-axis
- Reflection over the y-axis
- Dilation by a scale factor  $k > 1$
- Dilation by a scale factor  $0 < k < 1$
- Vertical translation
- Horizontal translation



- Reflection over the x-axis
- Reflection over the y-axis
- Dilation by a scale factor  $k > 1$
- Dilation by a scale factor  $0 < k < 1$
- Vertical translation
- Horizontal translation