CCSS Advanced Algebra 3 Card Sort: Transformations Check-In Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Identify each transformation (or transformations) below. Be specific.

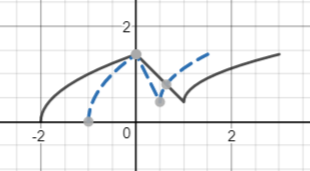
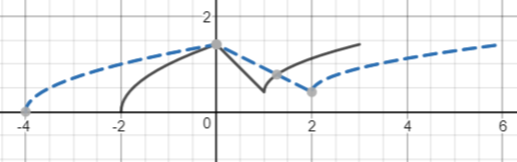
|  |  |  |
| --- | --- | --- |
| *Transformations:* | | |
| HORIZONTAL TRANSLATION (Left or Right) | VERTICAL TRANSLATION  (Up or Down) | VERTICAL REFLECTION |
| HORIZONTAL REFLECTION | HORIZONTAL DILATION  (Stretch or Compress) | VERTICAL DILATION  (Stretch or Compress) |

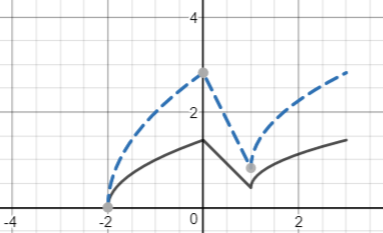
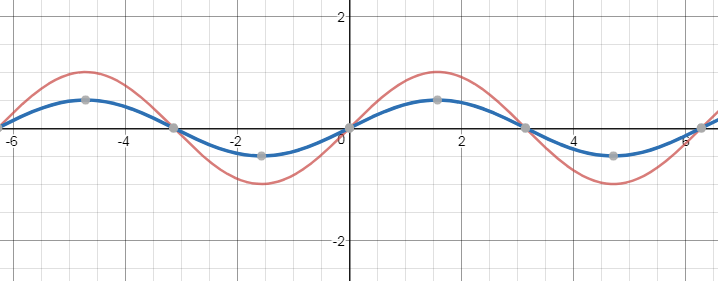
a. b. c.

d. e. f.

g. h. i.

2. Which image(s) below show a horizontal dilation and which show(s) a vertical dilation? How can you tell?



3. Let the Parent LINEAR Function be .

a. Explain GRAPHICALLY why a vertical translation up 1 unit results in the same function as a horizontal translation left 1 unit.

b. Will a VERTICAL REFLECTION of look differently than a HORIZONTAL REFLECTION of ? Explain how you know.

c. Is a VERTICAL or HORIZONTAL DILATION of ? Explain how you know.

4. Consider the Quadratic Function .

a. Factor to show that .

b. The VERTEX is halfway between the x-intercepts. Find the x- and y-coordinates of the vertex.

c. What transformation(s) on result in ? Be specific.

d. Evaluate . What does tell you about the GRAPH of ?

e. Find the VERTEX of .