Algebra 1 Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
Comparing Functions – Transformations Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

RECALL: Decide whether the following functions are linear, exponential, quadratic, or neither.

|  |  |
| --- | --- |
| **x** | **y** |
| -3 | 14 |
| -2 | 10 |
| -1 | 6 |
| 0 | 2 |
| 1 | -2 |
| 2 | -6 |
| 3 | -10 |

|  |  |
| --- | --- |
| **x** | **y** |
| -3 | 21 |
| -2 | 12 |
| -1 | 5 |
| 0 | 0 |
| 1 | -3 |
| 2 | -4 |
| 3 | -3 |

|  |  |
| --- | --- |
| **x** | **y** |
| -3 | 1/9 |
| -2 | 1/3 |
| -1 | 1 |
| 0 | 3 |
| 1 | 9 |
| 2 | 27 |
| 3 | 81 |

1. 2. 3.

Let’s remind ourselves of the following transformations for each function! Are they similar in any way?

1.  2.  3. 

Type of Function: \_\_\_\_\_\_\_\_\_\_\_\_ Type of Function: \_\_\_\_\_\_\_\_\_\_\_\_ Type of Function: \_\_\_\_\_\_\_\_\_\_\_\_

Horizontal Shift: \_\_\_\_\_\_\_\_\_\_\_\_\_\_ Horizontal Shift: \_\_\_\_\_\_\_\_\_\_\_\_\_\_ Horizontal Shift: \_\_\_\_\_\_\_\_\_\_\_\_\_\_

Reflection: none x-axis y-axis Reflection: none x-axis y-axis Reflection: none x-axis y-axis

Vertical Shift: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Vertical Shift: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Vertical Shift: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Dilation: none stretch shrink Dilation: none stretch shrink Dilation: none stretch shrink

Determine if the following functions are linear, exponential, or quadratic, then **describe** all of the transformations that occur.

4.  (1 transformation) 5.  (1 transformation)

6.  (1 transformation) 7.  (2 transformatons)

8.  (2 transformations) 9.  (3 transformations)

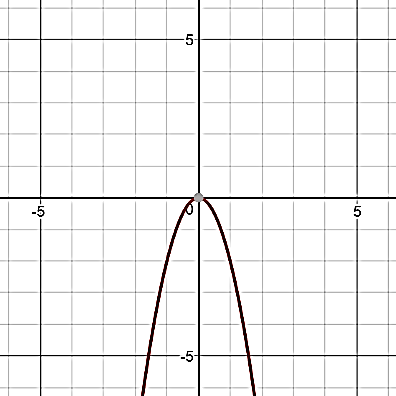
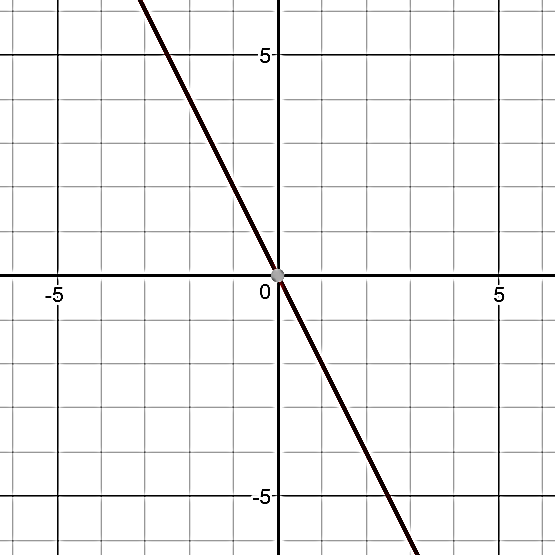
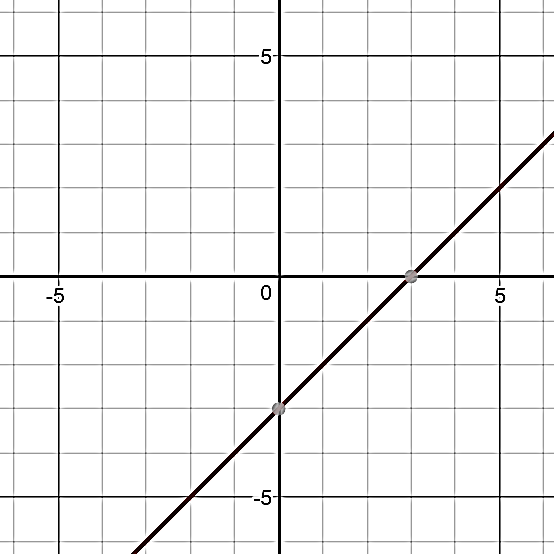
10.  (3 transformations) 11.  (4 transformations)

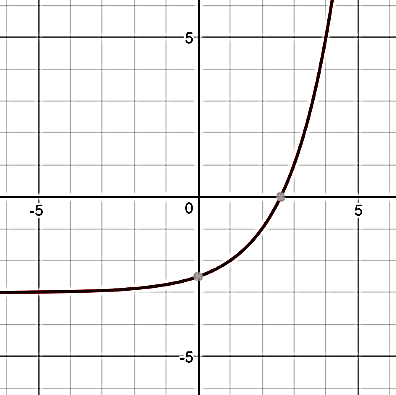
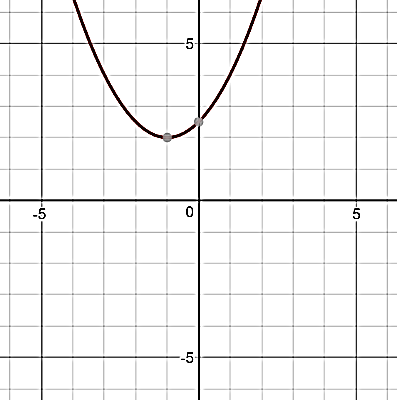
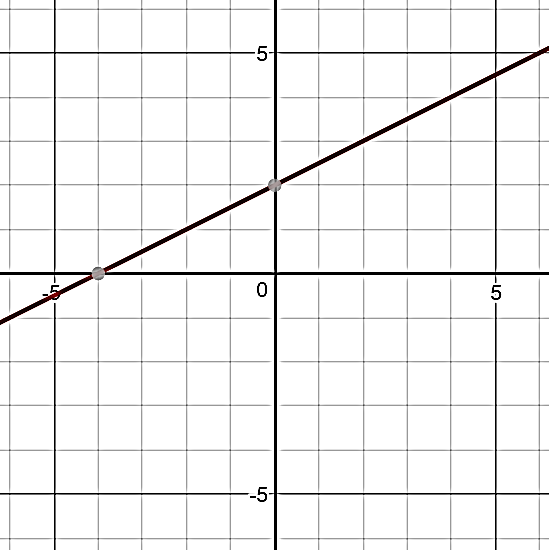
Match the graphs at the bottom of the paper with the given functions.

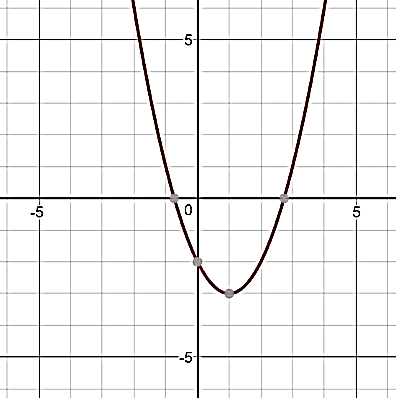
\_\_\_\_\_\_\_ 1.  \_\_\_\_\_\_\_ 2.  \_\_\_\_\_\_\_ 3. 

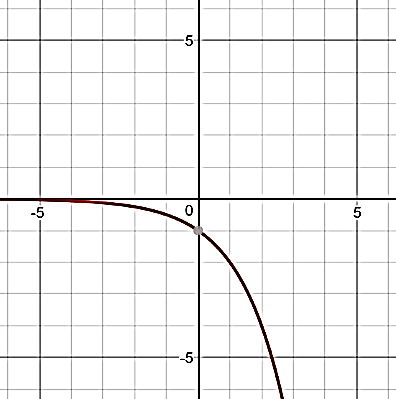
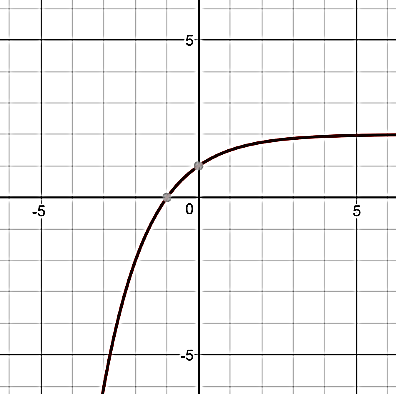
\_\_\_\_\_\_\_ 4.  \_\_\_\_\_\_\_ 5.  \_\_\_\_\_\_\_ 6. 

\_\_\_\_\_\_\_ 7.  \_\_\_\_\_\_\_ 8.  \_\_\_\_\_\_\_ 9. 

A.  B.  C. 

D. E.  F. 



G.  H.  I.