# Unit 1 Day 6 CW

Name:_____

Classwork: Given the patterns seen above, can you predict the domain/range of an image given a pre-image domain/range? Let's try:

***Side note about notation:***
*****If your data are Discrete, their domain is a list of values***
***written in this notation: { 1, 5, 7}***
*****If your data are continuous, their domain is an interval of values written in a variety of notations.***
***We are using this:*** $-7 \leq x < 3$

1. Given a relation composed of points A(2,5), B(1, -6), and C(4, 7),
   a. State the domain and range of the relation:
      D: {_____} R: {_____}

   b. State the domain and range of the image when the relation is:

   i. Translated right 2 and down 3 :
   D: {_____} R: {_____}

   ii. Reflected in the x-axis:
   D: {_____} R: {_____}

   iii. Reflected in the y-axis:
   D: {_____} R: {_____}

   iv. Reflected in the line y=x:
   D: {_____} R: {_____}

   v. Rotated 90°:
   D: {_____} R: {_____}

   vi. Dilated by a factor of 7 with a center of (0, 0):
   D: {_____} R: {_____}

2. Given a line segment with endpoints (0,4) and (3,0),
   a. State the domain and range of the segment. D: ___$\leq x \leq$_____ R: ___$\leq y \leq$____

   b. State the domain and range of the image when the relation is:

   i. Translated right 2 and down 3 :
   D: _____
   R: _____

   ii. Reflected in the x-axis:
   D: _____
   R: _____

   iii. Reflected in the y-axis:
   D: _____
   R: _____

   iv. Reflected in the line y=x:
   D: _____
   R: _____

   v. Rotated 90°:
   D: _____
   R: _____

   vi. Dilated by a factor of 7 with a center of (0, 0):
   D: _____
   R: _____

3. Is there a way to use your known algebra rules to predict the domain and range of an image give information about the pre-image?