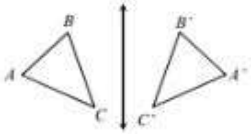
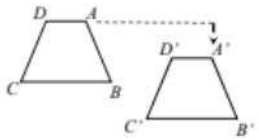
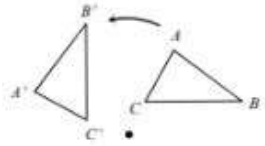
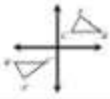
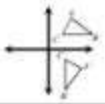
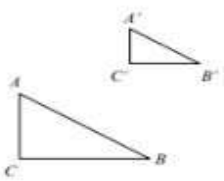
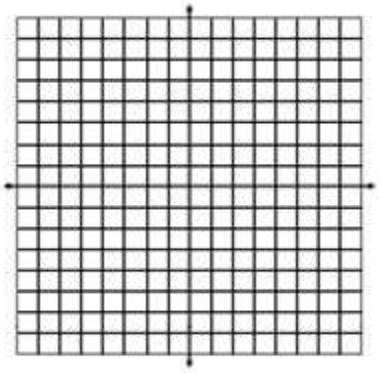
Name: _____ Geometry Unit 1
Date: _____ Period: _____

Main Ideas/Questions	Notes
Transformation	• An operation that **maps an original figure** called the _____ onto a new figure called the _____. • A transformation can change the _____, _____, or _____ of a figure
Reflection 	• A _____ over a line called the _____ _____ _____. • Each point and its image are the _____ _____ from the line of reflection. • Possible lines of reflection and their rules: x-axis: _____ y-axis: _____ Vertical line x = #: _____ Horizontal line y = #: _____ Diagonal line y = x: _____ Diagonal line y = -x: _____
Translation 	• To vertically and/or horizontally _____ a figure. • **Symbolic Form:** _____ _____ represents the _____ _____ represents the _____ • **Special Notation:** _____
Rotations 	A _____ around a fixed point called the **center of rotation**. The figure rotates at a specific _____ and _____. **Rules for rotating COUNTERCLOCKWISE about the ORIGIN** 90°  180°  270° 
Dilations 	• The _____ or _____ of a figure. • The _____ _____ indicates how much the figure will enlarge or reduce. • Variable for scale factor: _____ When _____, the dilation is an _____. When _____, the dilation is an _____. • **Symbolic Form:** _____

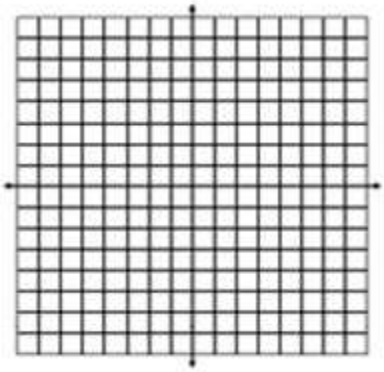
Practice:

1. Reflect triangle ABC with vertices A(-4, 2), B(4, 7), and C(5, 1) the x-axis.



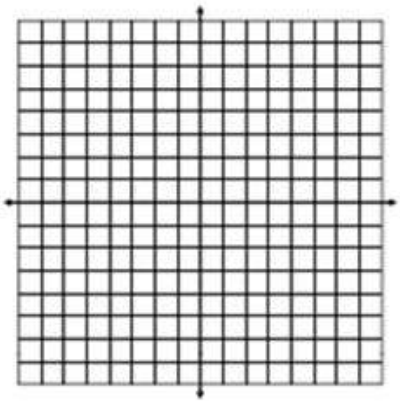
A'(___, ___)
B'(___, ___)
C'(___, ___)

2. Translate triangle CDE with vertices C(2, -1), D(7, -4), and E(4, -6): (x, y) → (x – 3, y + 8)



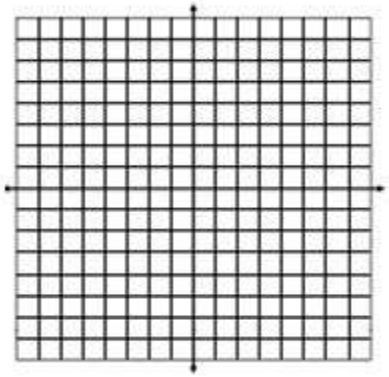
C'(___, ___)
D'(___, ___)
E'(___, ___)

3. Rotate triangle ABC with vertices A(2, 7), B(6, 5), and C(4, 1): 90° counterclockwise



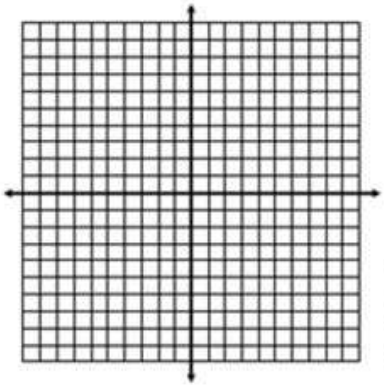
A'(___, ___)
B'(___, ___)
C'(___, ___)

4. Reflect triangle JKL with vertices J(1, -1), K(2, 3), and L(3, -2) in the line x = 4.



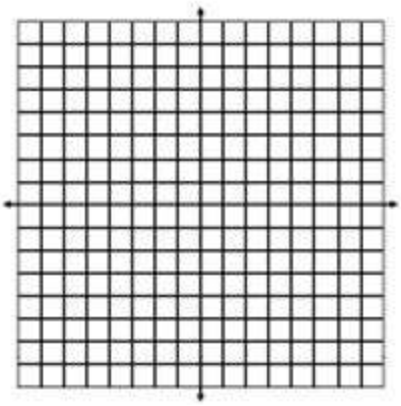
J'(___, ___)
K'(___, ___)
L'(___, ___)

5. Dilate triangle WXY with vertices W(-4, 8), X(10, 0), and Y(-2, -8): k = ¼



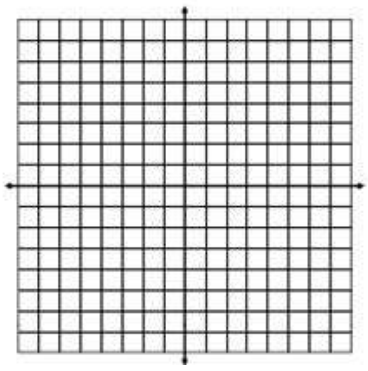
W'(___, ___)
X'(___, ___)
Y'(___, ___)

6. Reflect triangle XYZ with vertices X(-5, -2), Y(-3, 4), and Z(-1, 1) in the line y = x.



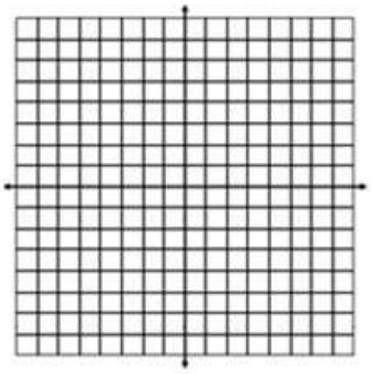
X'(___, ___)
Y'(___, ___)
Z'(___, ___)

7. Transform quadrilateral MNOP with vertices M(-7, 7), N(-2, 7), O(-3, 4), and P(-5, 3): a) rotation: 180
b) reflection: in the line y = -1



M'(___, ___)
N'(___, ___)
O'(___, ___)
P'(___, ___)

8. Transform triangle GHI with vertices G(-1, 6), H(-1, 3), and J(-6, 6): a) translation: (x, y) → (x + 7, y – 5)
b) reflection: in the line y = -3



G'(___, ___)
H'(___, ___)
I'(___, ___)