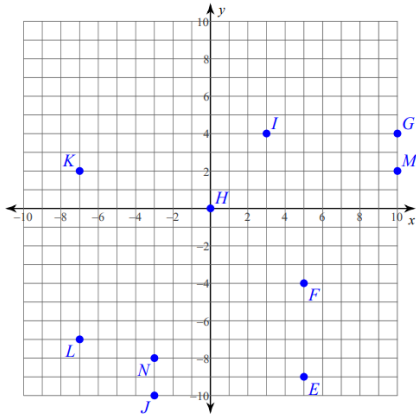Name

Date

Period

Dilations Practice

I. Review: Plotting points on a coordinate plane.

1. State the coordinates of each point.

E (,)
F (,)
G (,)
H (,)
I (,)
J (,)
K (,)
M (,)
N (,)

2. State the quadrant or axis that each point lies in.

L (–2, 1):

K (–3, –2):

J (3, 1):

T (–3, 5):

U (1, 0):

V (–5, 5):

II. Review of Transformations: translations, reflections, rotations

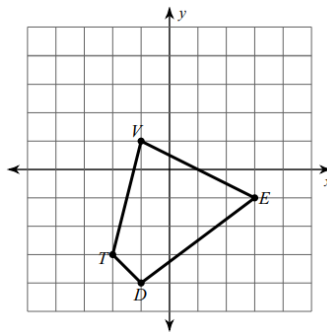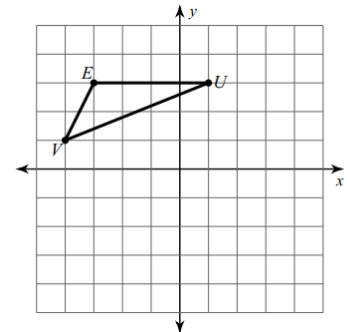| Clockwise rotations about the origin:	Reflections across an axis:	Translations:
• 90°: (x,y) -> (y,-x) • 180°: (x,y) -> (-x,-y) • 270°: (x,y) -> (-y,x)	• x-axis: (x,y) -> (x,-y) • y-axis: (x,y) -> (-x,y)	Add if moving right or up, subtract if moving left or down.

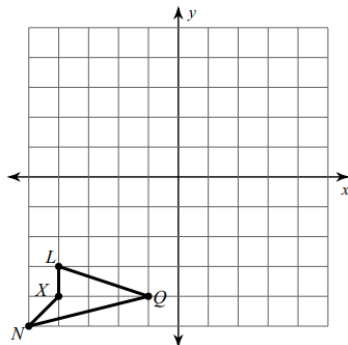1. Translation: 5 units right and 3 units up
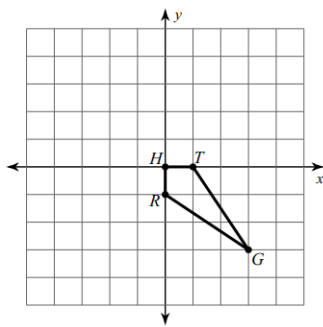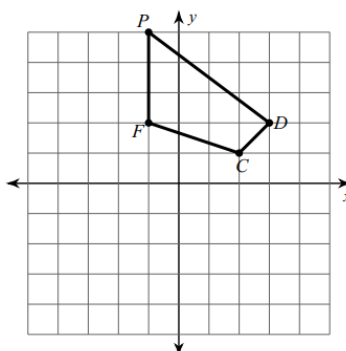

2. Reflection: across the y-axis

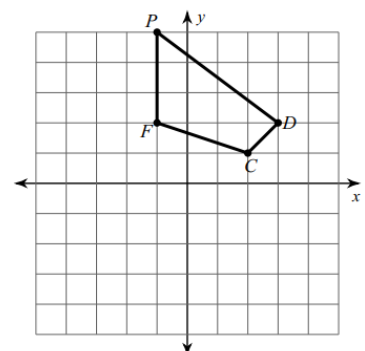3. Rotation: 90° counterclockwise about the origin

4. Translation: 1 unit right, 5 units up

5. Reflection: across the x-axis
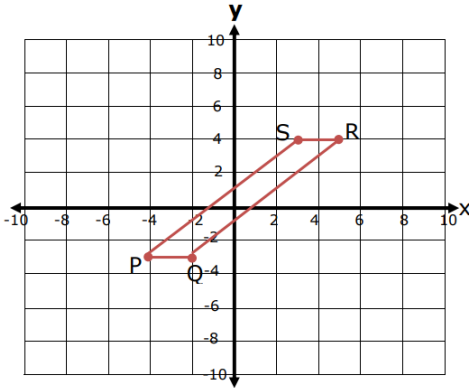

6. Rotation: 180° about the origin

III. Dilations Practice
  1. Fill in the blank:
        a. In math, the word dilate means to _____ or _____ a figure.

        b. If a scale factor is less than 1, then your figure gets _____.

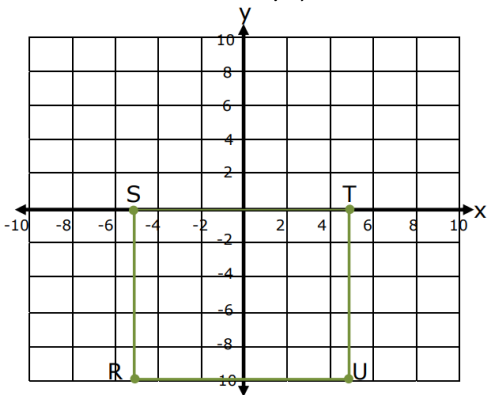   c. If a scale factor is greater than 1, then your figure gets _____.

2. Graph the image of quadrilateral PQRS after a dilation with a scale factor of 2, centered at the origin.
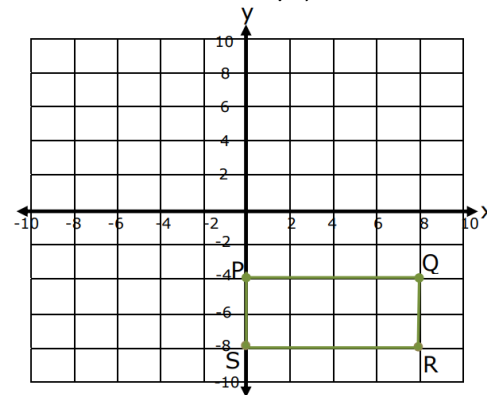
3. Graph the image of triangle FGH after a dilation with a scale factor of 5, centered at the origin.
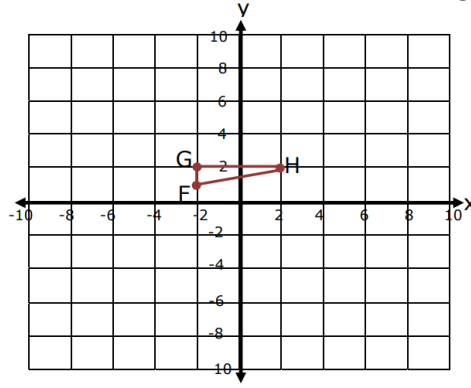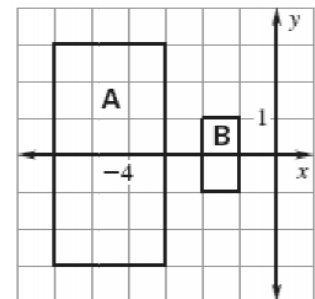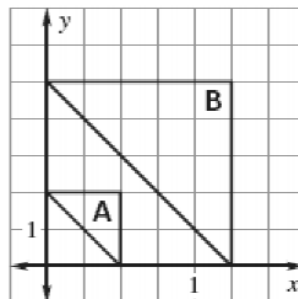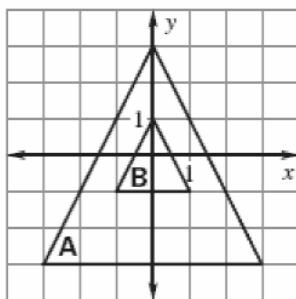
4. Graph the image of rectangle RSTU after a dilation with a scale factor of 1/5, centered at the origin.

5. Graph the image of rectangle PQRS after a dilation with a scale factor of 1/4, centered at the origin.

6. Determine whether the dilation from Figure A to Figure B is a reduction or an enlargement. Then, find its scale factor.

7. Point A is a vertex of a polygon. Point R is the image of A after a dilation. Find the scale factor of the dilation.

    A (3, 4), R (9, 12)   A (9, 12), R (6, 8)   A (-2, -1), R (-10, -15)