Geometry
7.0 Dilations Practice

Name Key

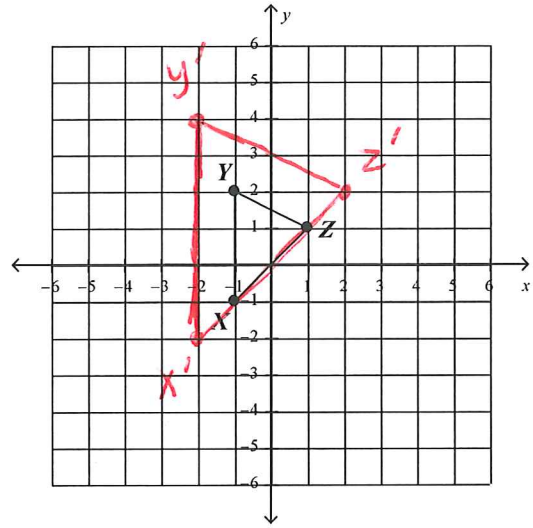
1. Triangle *XYZ* is graphed below. Determine the coordinates of the image X'Y'Z'after a dilation using a scale factor of two. Draw and label triangle X'Y'Z'

Transformation Rule: (x, y) → (2x, 2y)

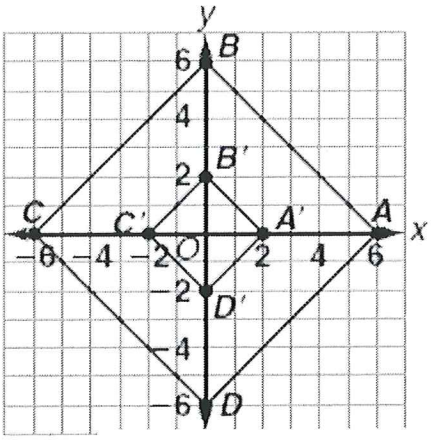
X (-1, -1) → X' (-2, -2)

Y (-1, 2) → Y' (-2, 4)

Z (1, 1) → Z' (2, 2)




2. Quadrilateral *A'B'C'D'* is a dilation of quadrilateral *ABCD.*




*a)* Find the scale factor.

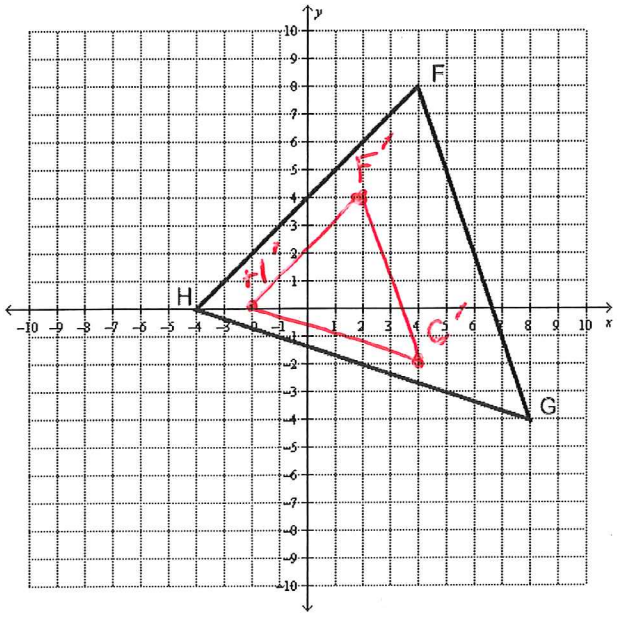
$\frac{1}{3}$

*b)* Write the transformation rule.

$(x, y) \rightarrow (\frac{1}{3}x, \frac{1}{3}y)$

*c)* Is this dilation as an enlargement or a reduction?

3. On the grid below, draw the image of $\Delta FGH$ after a dilation with a scale factor of $\frac{1}{2}$.



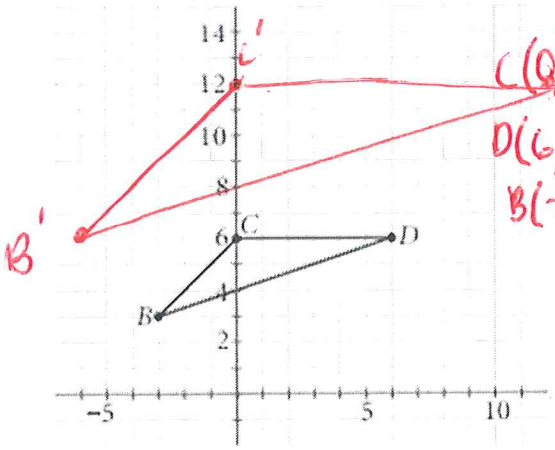

F(4, 8) → F'(2, 4)

G(8, -4) → G'(4, -2)

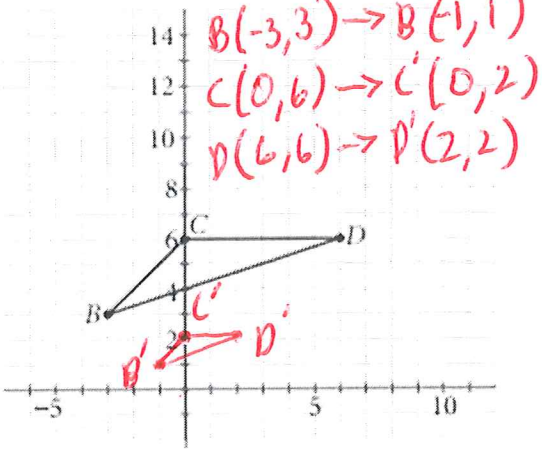
H(-4, 0) → H'(-2, 0)

For Exercises 1 and 2, transform each triangle by the ordered pair rule.

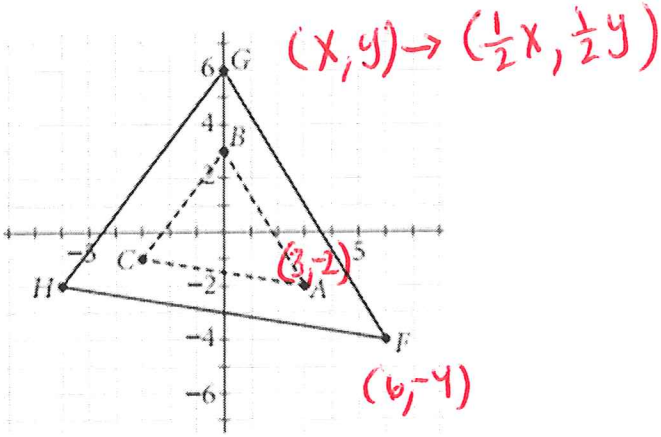
4. $(x, y) \rightarrow (2x, 2y)$



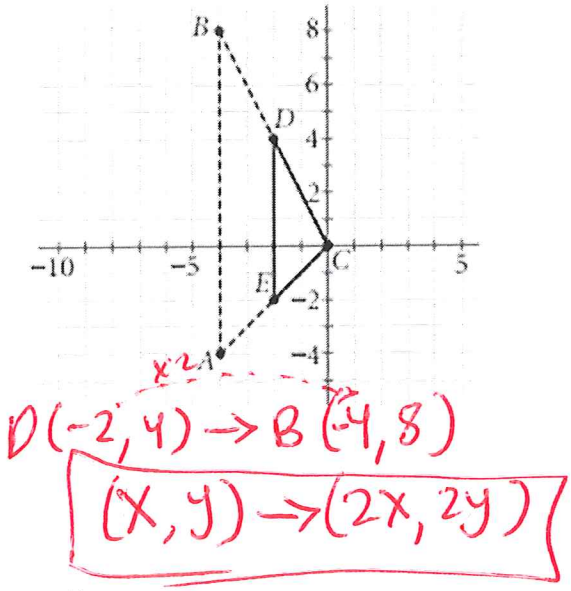

5. $(x, y) \rightarrow (\frac{1}{3}x, \frac{1}{3}y)$




6. Identify the ordered pair rule that transforms $\triangle FGH$ onto $\triangle ABC$.




7. Identify the ordered pair rule that transforms $\triangle EDC$ onto $\triangle ABC$.




8. Triangle *PQR* has coordinates P(2, 4), Q(-2, 4), R(0, -6).

(x, y) → (1.5x, 1.5y)

a) Write the coordinates of the vertices of the image of a triangle after a dilation of 1.5.

P'(3, 6), Q'(-3, 6), R'(0, -9)

b) Is this image an enlargement or reduction of the pre-image?