

Activity for Translation Practice

Materials: 0.25 inch double sided graph paper (have students draw and label “x” and “y” axes)
Index cards – with printed pre-image/image coordinates
Rulers (or any straight edge)
Colored pencils
Envelopes (to hold two index cards)
SMART document camera for sharing results

Directions: Student pairs will receive an envelope with their two index cards. On each side, there will be pre-image points and image points needed for each translation.

Ex.

Pre-image	Image
Point A (3, 10)	Point A' (-5, 6)
Point B (8, 10)	Point B' (0, 6)
Point C (8, 2)	Point C' (0, -2)
Point D (3, 2)	Point D' (-5, -2)

Students will plot and label the points for each pre-image and image listed on each card on the same coordinate grid. The pre-image shape should be drawn using one color, the other should be drawn using a different color.

Upon completion of the translations, students will complete questions on accompanying sheet. Presentations can be made by each group using the SMART document camera to share their translations and discuss questions from sheet.

***Groups I & III, II & IV, V & VII, VI & VIII have the same translations
Print them out and glue/tape onto index cards (pre-image on front, image on back)

<p style="text-align: center;">GROUP I</p> <p>Shape 1 Pre-Image</p> <p>A (3, 6) B (10, 9) C (12, 4) D (5, 4)</p>	<p style="text-align: center;">GROUP I</p> <p>Shape 1 Image</p> <p>A' (-3, 10) B' (4, 10) C' (6, 5) D (-1, 5)</p>
<p style="text-align: center;">GROUP I</p> <p>Shape 2 Pre-Image</p> <p>A (-5, 3) B (-5, -4) C (-1, 3)</p>	<p style="text-align: center;">GROUP I</p> <p>Shape 2 Pre-Image</p> <p>A' (1, 5) B' (1, -2) C' (5, 5)</p>
<p style="text-align: center;">GROUP II</p> <p>Shape 1 Pre-Image</p> <p>A (-4, 8) B (1, 8) C (1, 2) D (-4, 2)</p>	<p style="text-align: center;">GROUP II</p> <p>Shape 1 Image</p> <p>A (1, 4) B (6, 4) C (6, -2) D (1, -2)</p>
<p style="text-align: center;">GROUP II</p> <p>Shape 2 Pre-Image</p> <p>A (4, -2) B (8, -2) C (10, -8) D (2, -8)</p>	<p style="text-align: center;">GROUP II</p> <p>Shape 2 Image</p> <p>A (-4, 3) B (0, 3) C (2, -3) D (-6, -3)</p>

<p style="text-align: center;">GROUP III</p> <p>Shape 1 Pre-Image</p> <p>A (3, 6) B (10, 9) C (12, 4) D (5, 4)</p>	<p style="text-align: center;">GROUP III</p> <p>Shape 1 Image</p> <p>A' (-3, 10) B' (4, 10) C' (6, 5) D (-1, 5)</p>
<p style="text-align: center;">GROUP III</p> <p>Shape 2 Pre-Image</p> <p>A (-5, 3) B (-5, -4) C (-1, 3)</p>	<p style="text-align: center;">GROUP III</p> <p>Shape 2 Pre-Image</p> <p>A' (1, 5) B' (1, -2) C' (5, 5)</p>
<p style="text-align: center;">GROUP IV</p> <p>Shape 1 Pre-Image</p> <p>A (-4, 8) B (1, 8) C (1, 2) D (-4, 2)</p>	<p style="text-align: center;">GROUP IV</p> <p>Shape 1 Image</p> <p>A (1, 4) B (6, 4) C (6, -2) D (1, -2)</p>
<p style="text-align: center;">GROUP IV</p> <p>Shape 2 Pre-Image</p> <p>A (4, -2) B (8, -2) C (10, -8) D (2, -8)</p>	<p style="text-align: center;">GROUP IV</p> <p>Shape 2 Image</p> <p>A (-4, 3) B (0, 3) C (2, -3) D (-6, -3)</p>

<p style="text-align: center;">GROUP V</p> <p>Shape 1 Pre-Image</p> <p>A (2, 3) B (8, 3) C (8, -4) D (2, -4)</p>	<p style="text-align: center;">GROUP V</p> <p>Shape 1 Image</p> <p>A' (-3, 3) B' (3, 3) C' (3, -4) D (-3, -4)</p>
<p style="text-align: center;">GROUP V</p> <p>Shape 2 Pre-Image</p> <p>A (3, 1) B (8, 1) C (12, 9)</p>	<p style="text-align: center;">GROUP V</p> <p>Shape 2 Pre-Image</p> <p>A' (3, -4) B' (8, -5) C' (12, 4)</p>
<p style="text-align: center;">GROUP VI</p> <p>Shape 1 Pre-Image</p> <p>A (1, 1) B (1, 5) C (6, 8) D (6, 1)</p>	<p style="text-align: center;">GROUP VI</p> <p>Shape 1 Image</p> <p>A (-3, 4) B (-3, 8) C (2, 11) D (2, 4)</p>
<p style="text-align: center;">GROUP VI</p> <p>Shape 2 Pre-Image</p> <p>A (-8, 3) B (-6, 8) C (-2, 8) D (-4, 3)</p>	<p style="text-align: center;">GROUP VI</p> <p>Shape 2 Image</p> <p>A (1, -1) B (3, 4) C (7, 4) D (5, -1)</p>

<p style="text-align: center;">GROUP VII</p> <p>Shape 1 Pre-Image</p> <p>A (2, 3) B (8, 3) C (8, -4) D (2, -4)</p>	<p style="text-align: center;">GROUP VII</p> <p>Shape 1 Image</p> <p>A' (-3, 3) B' (3, 3) C' (3, -4) D (-3, -4)</p>
<p style="text-align: center;">GROUP VII</p> <p>Shape 2 Pre-Image</p> <p>A (3, 1) B (8, 1) C (12, 9)</p>	<p style="text-align: center;">GROUP VII</p> <p>Shape 2 Pre-Image</p> <p>A' (3, -4) B' (8, -5) C' (12, 4)</p>
<p style="text-align: center;">GROUP VIII</p> <p>Shape 1 Pre-Image</p> <p>A (1, 1) B (1, 5) C (6, 8) D (6, 1)</p>	<p style="text-align: center;">GROUP VIII</p> <p>Shape 1 Image</p> <p>A (-3, 4) B (-3, 8) C (2, 11) D (2, 4)</p>
<p style="text-align: center;">GROUP VIII</p> <p>Shape 2 Pre-Image</p> <p>A (-8, 3) B (-6, 8) C (-2, 8) D (-4, 3)</p>	<p style="text-align: center;">GROUP VIII</p> <p>Shape 2 Image</p> <p>A (1, -1) B (3, 4) C (7, 4) D (5, -1)</p>

NAME
GROUP #

DATE

Directions: Discuss and answer the questions when you have finished plotting the translations.

SHAPE #1:

What is the name of the polygon in both the pre-image and image?

Are they congruent (same shape, same size)? How can you tell?

In which direction did the shape move (be specific (right/left, up/down))?

Write the rule for the translation (x _____, y _____)

What is the area of the pre-image? The image? Show your work.

SHAPE #2:

What is the name of the polygon in both the pre-image and image?

Are they congruent (same shape, same size)? How can you tell?

In which direction did the shape move (be specific (right/left, up/down))?

Write the rule for the translation (x _____, y _____)

What is the area of the pre-image? The image? Show your work.