Geometry Unit 1: Transformations

Quiz/Test Review
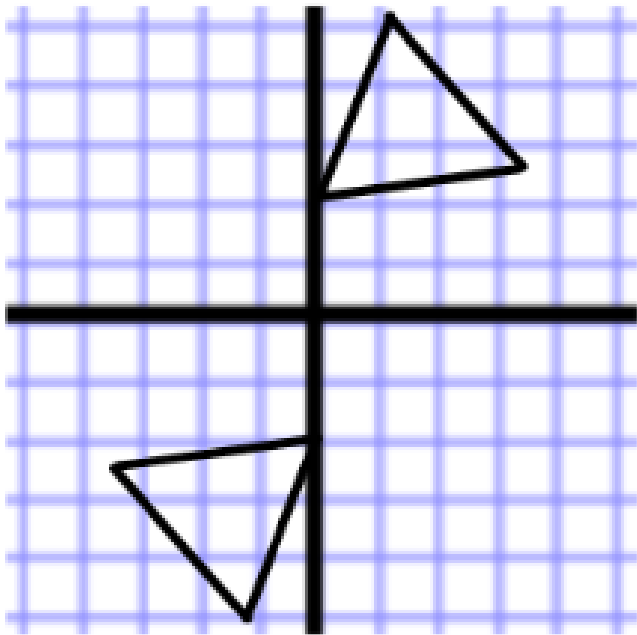
Quiz Breakdown – 38 Questions

- Identify the transformation – 6 Questions
  - Given an image and pre-image, you only have to state what transformation the picture is demonstrating (no notation required)

Identify Transformations by Image.

- Identify and state the Transformation being demonstrated be the following shapes.

Transformation:
Rotation

Quiz Breakdown – 38 Questions

- Explain the movement of points for a given transformation – 3 Questions
  - Explain, in words with a complete sentence, how points would be moved for a transformation given its notation (must start by saying "Every Point" or "All Points")

Explain Transformations in Words

- For each Transformation, describe how each point should move.

1. T:(x, y) → (x + a, y + b):

   Every point moves a units (left if a is negative/right if a is positive) and b units (down if b is negative and up if b is positive.

2. R_m:

   Every point maps to its image, forming a line that is **perpendicular** to the line "m" (you would put the specific line for your problem in place of "m"), with both image and pre-image being **equidistant** (same distance) from the line "m".

Quiz Breakdown – 38 Questions

- Using a translation on points – 3 Questions
  - Given two points, complete the notation for the translation that moves the first given point to the second given point.
  - Given an image, use the notation you made to find the its pre-image.
  - Given a pre-image, use the same notation to find its image.

Translation:
From Pre-Image to Image, and Vice versa

- You are Given a translation that moves the point $(1, -5)$ to the point $(4, -7)$
- Complete the translation that describes the movement above.
  $T: (x, y) \rightarrow (x\underline{}, y\underline{})$, $(x + 3, y - 2)$

- Use the above translation you found to answer the next problem:
- Find the image of (-4,-4)

Since you are finding the image, you simply apply the above notation to the point (-4,-4): $T: (-4, -4) \rightarrow (-4 + 3, -4 - 2)$

Image: (-1,-6)

Quiz Breakdown – 38 Questions

- Given a point, state its image under a given transformation – 9 Questions
  - You will be asked to reflect a point under 3 different reflections
  - You will be asked to rotate a point under 3 different rotations
  - You will be asked to dilate a point under 3 different dilations

Practice Using the Rules

- Perform the identified transformation for the point (-2,3).

1. Reflect across $y = x$: (3,-2)

2. Half-Turn: (2,-3)

3. $T: (x, y) \rightarrow (x + 6, y - 2)$: (4,1)

4. 90° rotation: (-3,-2)

Quiz Breakdown – 38 Questions

- Using a graph to find images under a given transformation– 10 Questions
  - You will be given a graph, with many points on it, labeled with various letters.
  - Each question will ask you to move a point under a specific transformation (described in notation)
  - You will use the graph to identify another point that matches the moved of the point given under the original transformation.
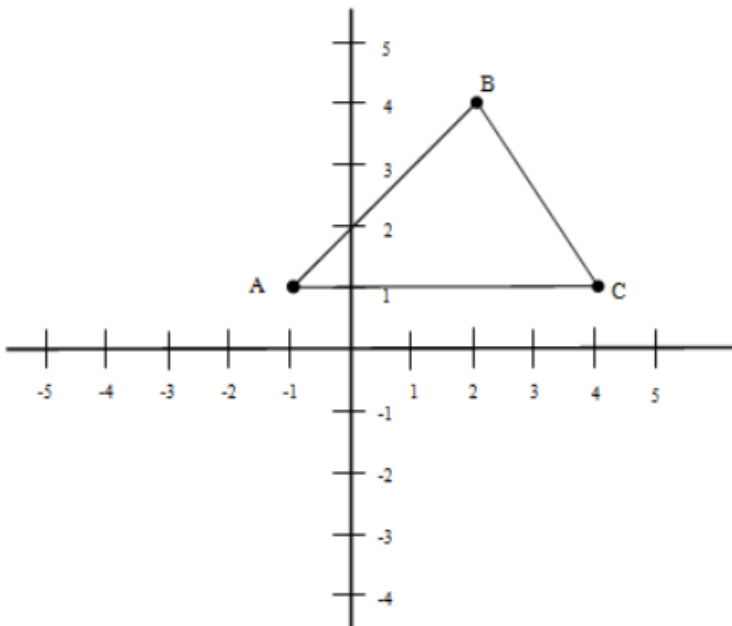
Quiz Breakdown – 38 Questions

- Draw images of graphs – 6 Questions
  - Given a pre-image, draw its image on the graph given a specific transformation.
  - Remember notations.
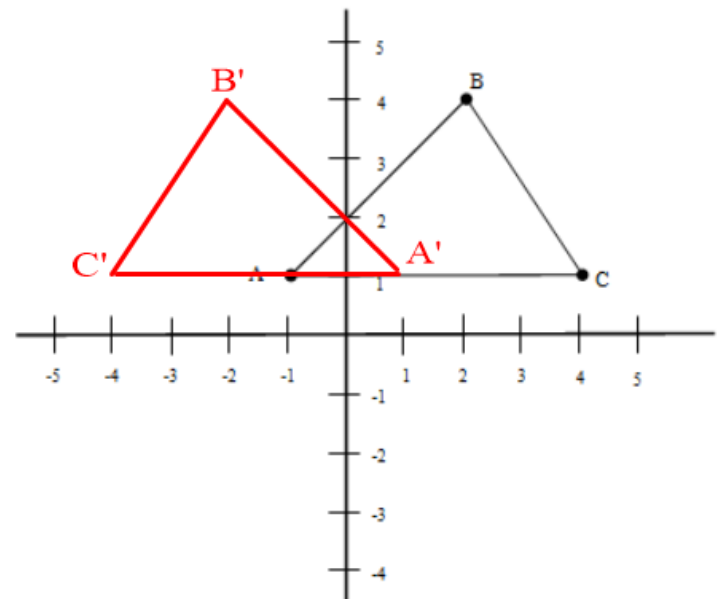 - Remember the Rules for each transformation.

Using a given shape, graph its image under the given transformation.
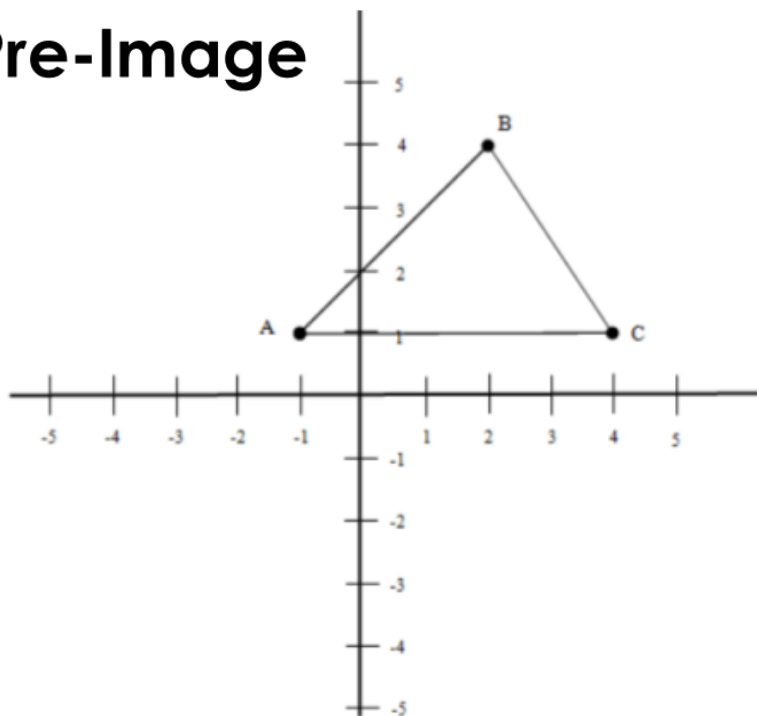
- R_{y-axis}

Pre-Image

Image

Using a given shape, graph its image under the given transformation.

- $D_{A,\frac{1}{2}}$ When the center is not the origin, you must measure distances and multiply them by the scale factor to find the correct image (Remember that the center is its own image.)

Pre-Image

Image