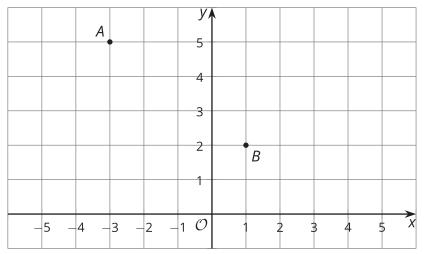# Unit 6 Lesson 1: Rigid Transformations in the Plane

1 Traversing the Plane (Warm up)

Student Task Statement
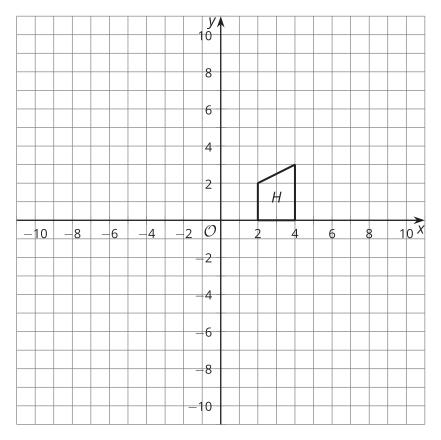

1. How far is point A from point B?

2. What transformations will take point A to point B?

2 Transforming with Coordinates
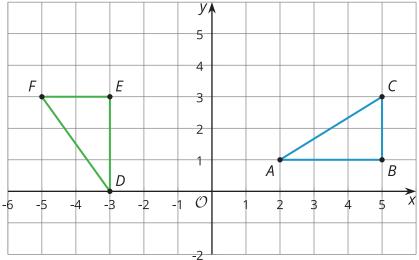
Student Task Statement

First, predict where each transformation will land. Next, carry out the transformation.

1. Rotate Figure H clockwise using center $(2, 0)$ by 90 degrees.
   Translate the image by the directed line segment from $(2, 0)$ to $(3, -4)$.
   Label the result R.

2. Reflect Figure H across the y-axis.
   Rotate the image counterclockwise using center $(0, 0)$ by 90 degrees.
   Label the result L.

3 Congruent by Coordinates

Student Task Statement

1. Calculate the length of each side in triangles ABC and DEF.

2. Calculate the measure of each angle in triangles ABC and DEF.

3. The triangles are congruent. How do you know this is true?

4. Because the triangles are congruent, there must be a sequence of rigid motions that takes one to the other. Find a sequence of rigid motions that takes triangle ABC to triangle DEF.

Images for Activity Synthesis