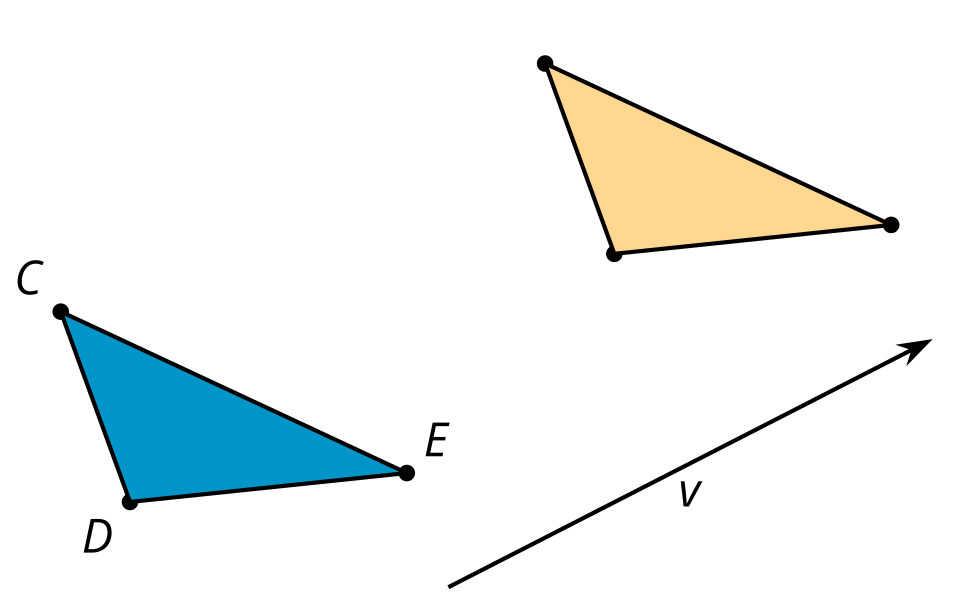
## Unit 1 Lesson 12: Defining Translations

### 1 Notice and Wonder: Two Triangles and an Arrow (Warm up)

#### Student Task Statement

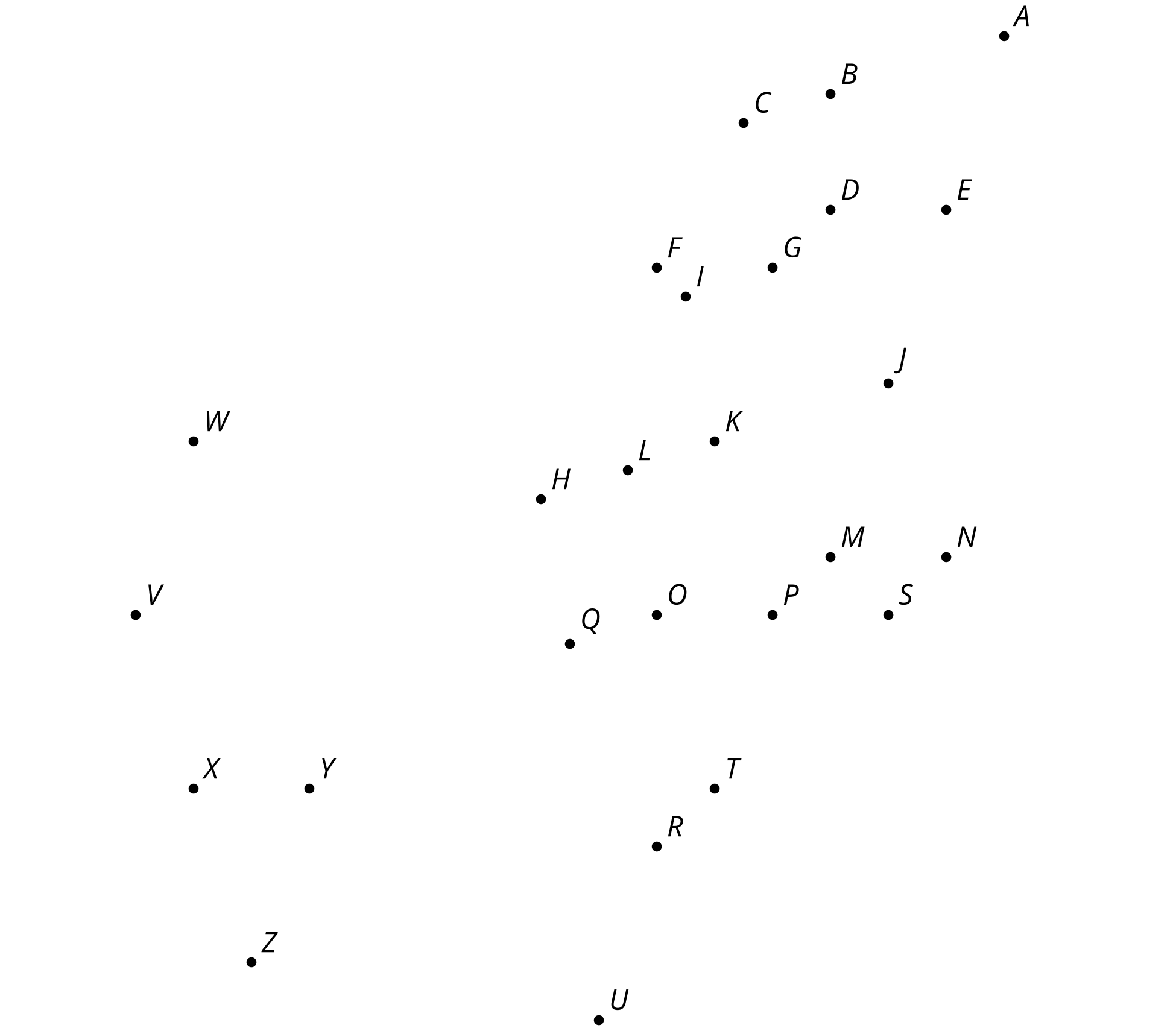
What do you notice? What do you wonder?



### 2 What’s the Point: Translations

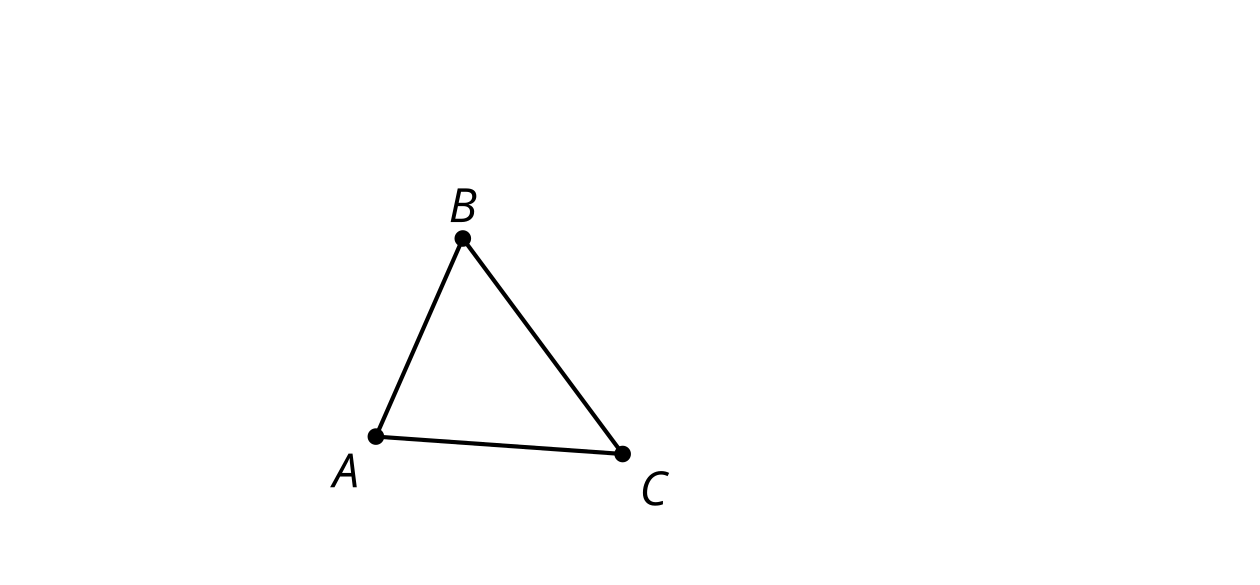
#### Student Task Statement

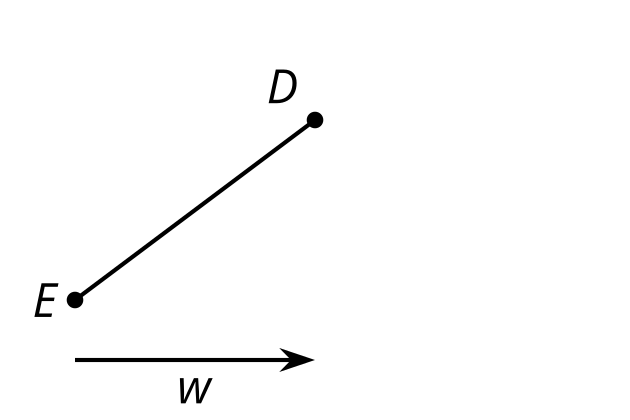
1. After a translation, the image of is . Find at least 3 other points that are taken to a labeled point by that translation.
2. Write at least 1 conjecture about translations.
3. In a new translation, the image of is . Find at least 3 other points that are taken to a labeled point by the new translation.
4. Are your conjectures still true for the new translation?



### 3 Translating Triangles

#### Student Task Statement

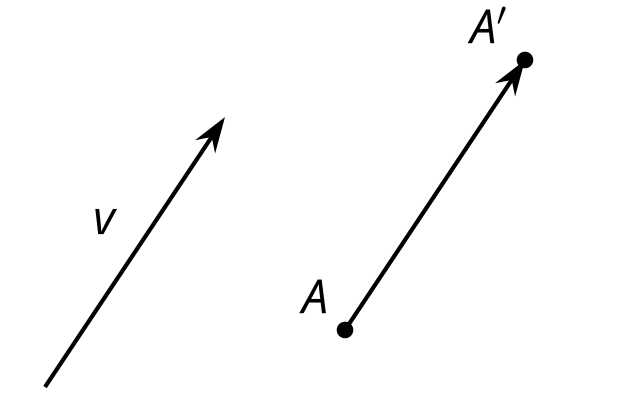


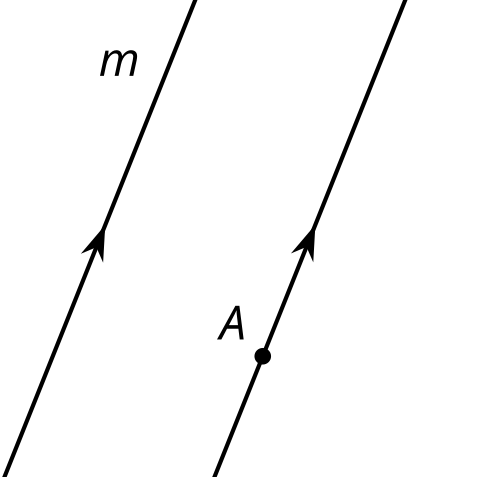


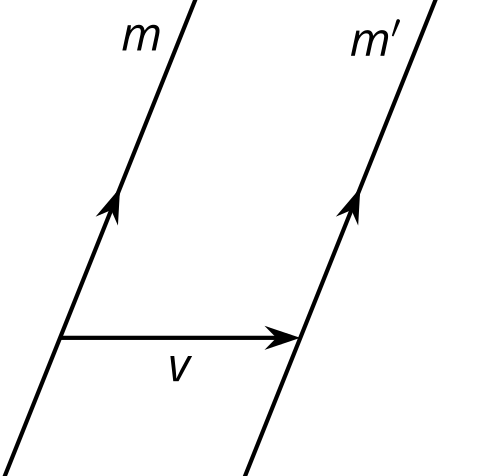
1. Translate triangle by the **directed line segment** from to .
   1. What is the relationship between line and line ? Explain your reasoning.
   2. How does the length of segment  compare to the length of segment ? Explain your reasoning.
2. Translate segment by directed line segment . Label the new endpoints and .
   1. Connect to and to .
   2. What kind of shape did you draw? What properties does it have? Explain your reasoning.

#### Images for Activity Synthesis

Translate by the directed line segment .









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