

TRANSLATION

DEFINITION-WRITING

ACTIVITY

A Hands-On and Cooperative Activity

Protocol

1. There are six translations in total. Within your four-student group, two students perform translations #1–3 and two students perform translations #4–6.
2. Upon completion, compare your translations with other members of your group.
3. Scaffolds and supports were included in the last two definition-writing activities to help you build momentum and confidence. They have been removed from this activity. Part 2 asks that you brainstorm individually for a few minutes, record your ideas, and then collaborate on writing a precise definition of “Translation.”
4. When you settle upon the final version of your definition, please write it on chart paper and be prepared to defend it.

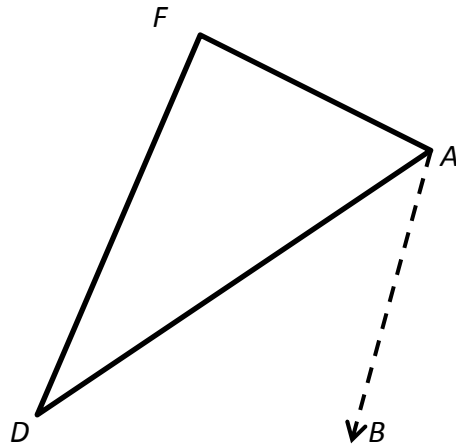
Translations Along a Vector.

Part 1. Exercises

#1. Vector v is defined by \overrightarrow{AB} .

Translate $\triangle FAD$ along \vec{v} .

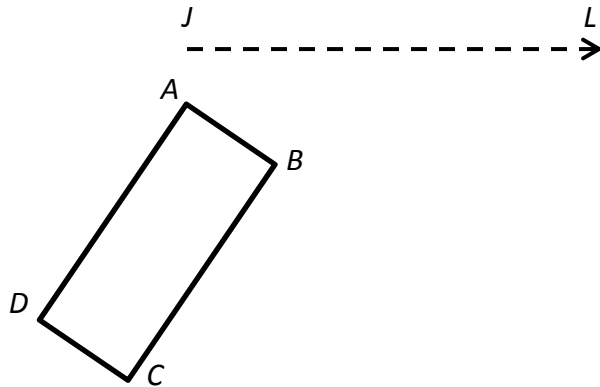
Then explain to your table partners how you translated the triangle.



#2. Vector v is defined by \overrightarrow{JL} .

Translate rectangle $ABCD$ along \vec{v} .

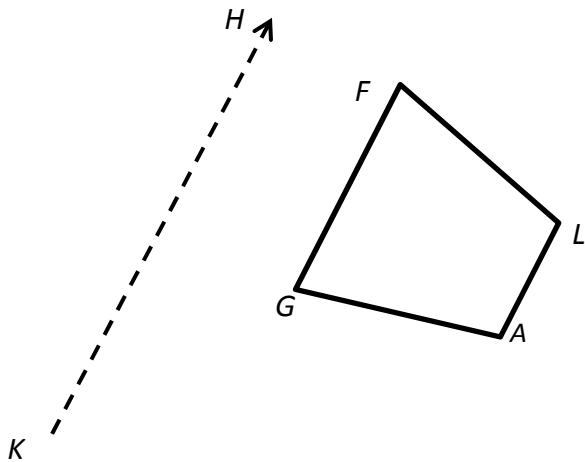
Then explain to your table partners how you translated the rectangle.



#3. Vector v is defined by \overrightarrow{KH} .

Translate trapezoid $FLAG$ along \vec{v} .

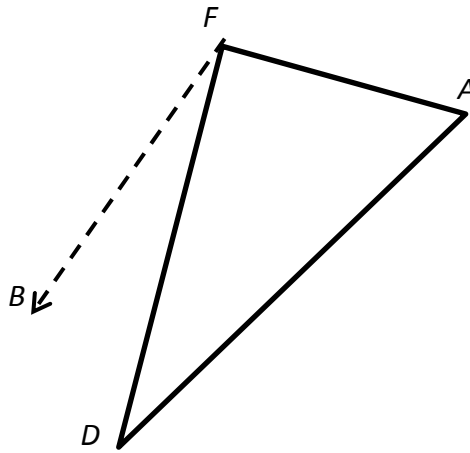
Then explain to your table partners how you translated the trapezoid.



#4. Vector v is defined by \overrightarrow{FB} .

Translate $\triangle FAD$ along \vec{v} .

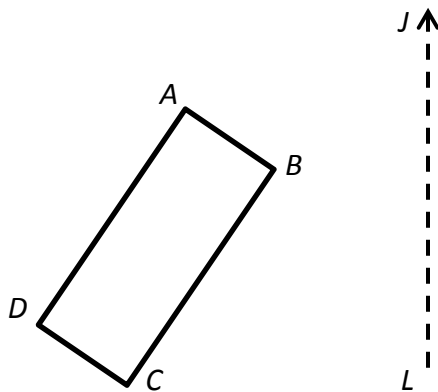
Then explain to your table partners how you translated the triangle.



#5. Vector v is defined by \overrightarrow{LJ} .

Translate rectangle $ABCD$ along \vec{v} .

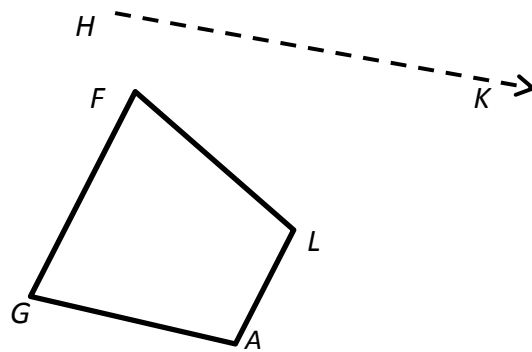
Then explain to your table partners how you translated the rectangle.



#6. Vector v is defined by \overrightarrow{HK} .

Translate trapezoid $FLAG$ along \vec{v} .

Then explain to your table partners how you translated the trapezoid.



Translations Along a Vector

Part 2. Write a Precise Definition of Translation

**A thorough definition will include references to

- Translating a point that does not lie on the vector
- Translating a point that does lie on the vector
- Translating a point along the zero vector
- Parallel lines
- Congruent segments