

## Unit 2 Lesson 11: Similarity

### 1 Equivalent Expressions (Warm up)

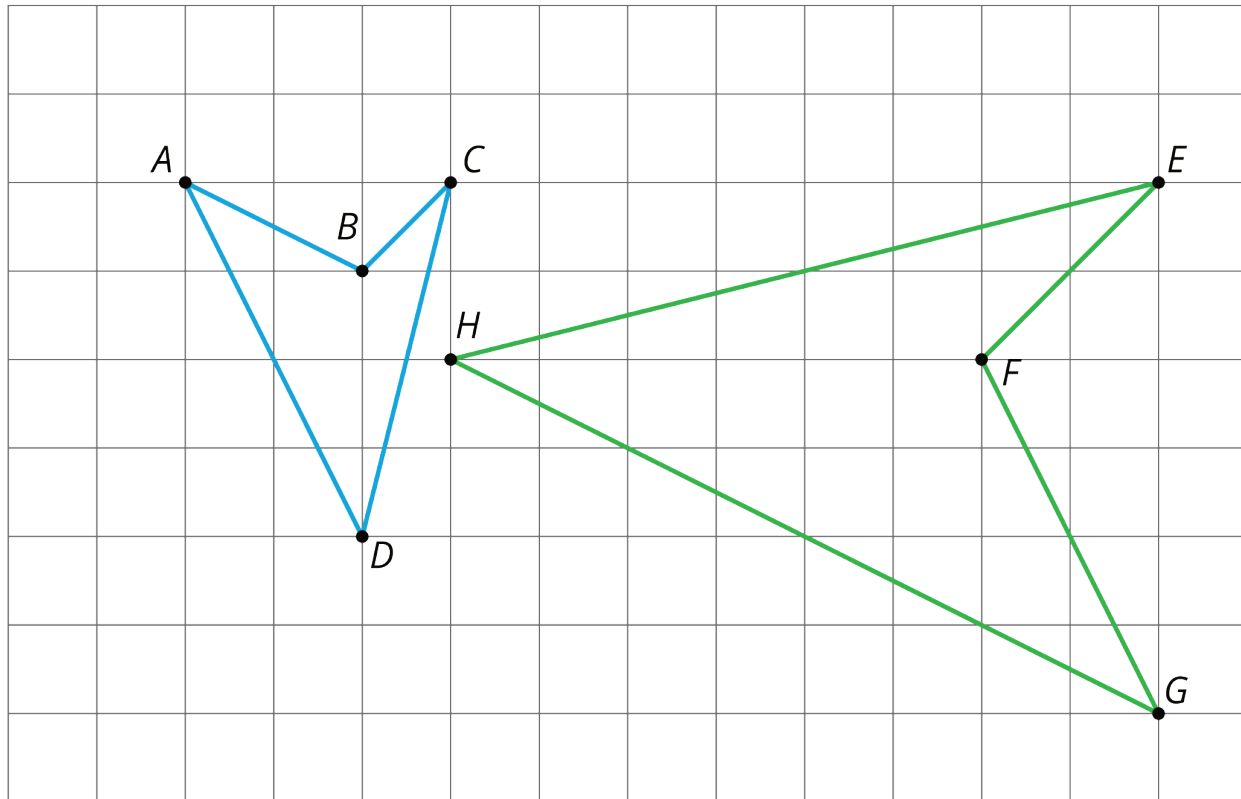
#### Student Task Statement

Use what you know about operations and their properties to write three expressions equivalent to the expression shown.

$$10(2 + 3) - 8 \cdot 3$$

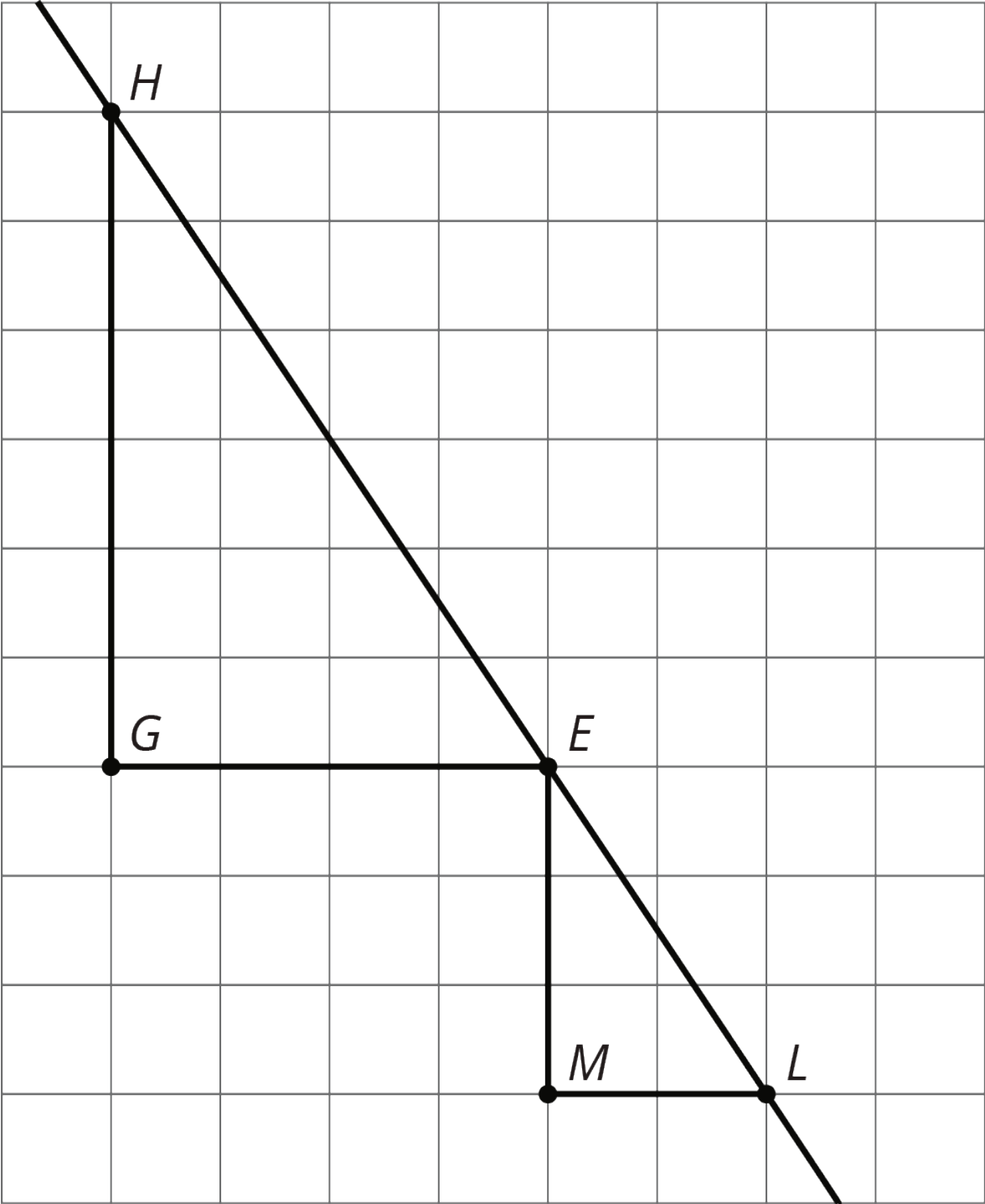
## 2 Similarity Transformations (Part 1)

### Images for Launch

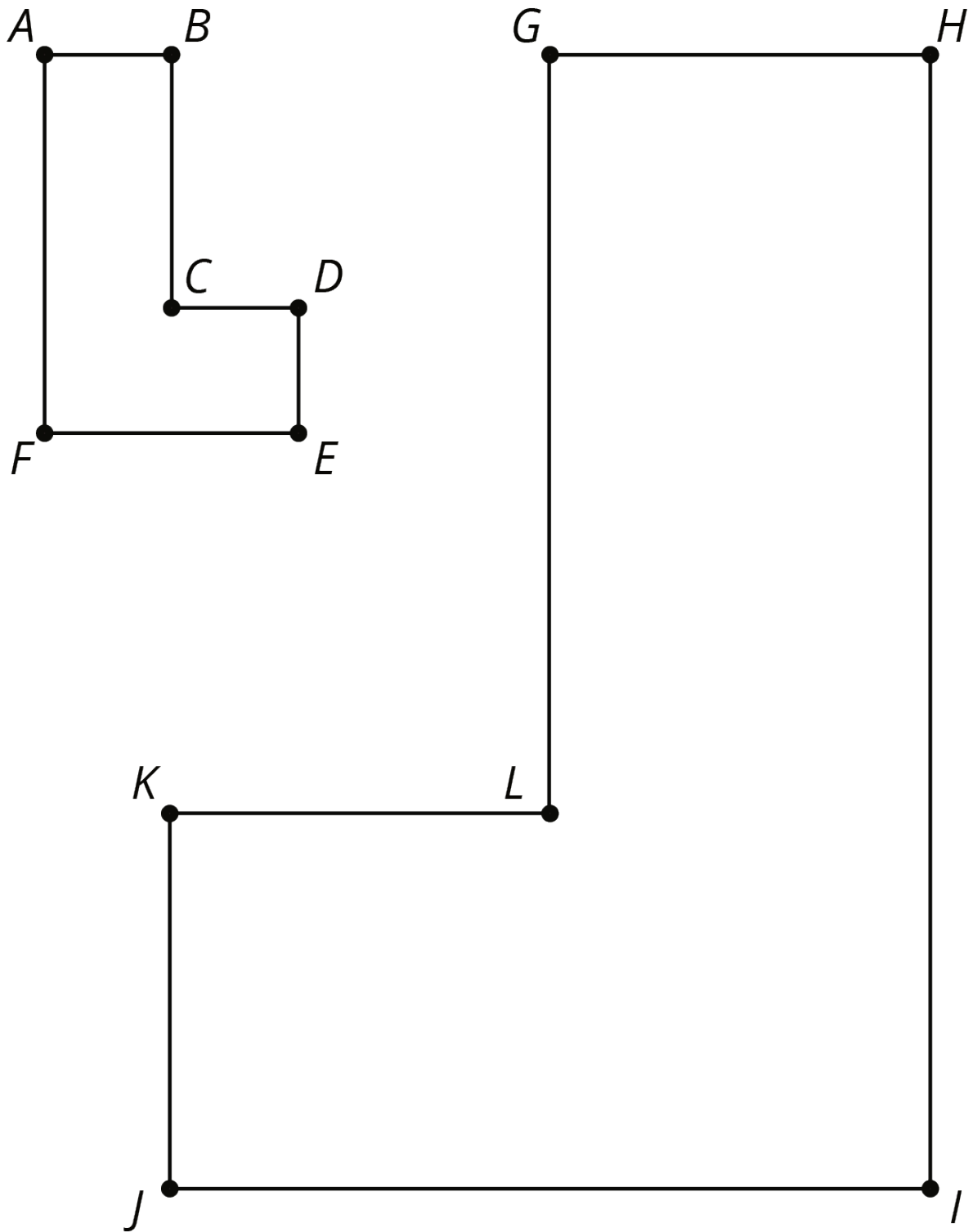


### Student Task Statement

1. Triangle  $EGH$  and triangle  $LME$  are **similar**. Find a sequence of translations, rotations, reflections, and dilations that shows this.



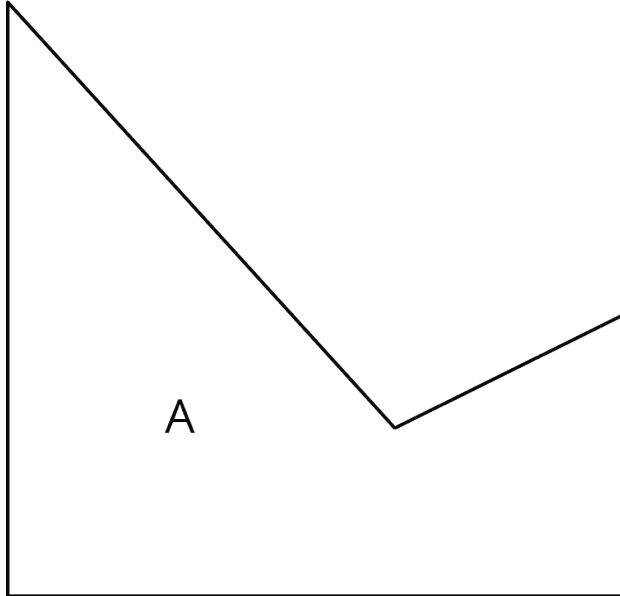
2. Hexagon  $ABCDEF$  and hexagon  $HGLKJI$  are similar. Find a sequence of translations, rotations, reflections, and dilations that shows this.



### 3 Similarity Transformations (Part 2)

#### Student Task Statement

Sketch figures similar to Figure A that use only the transformations listed to show similarity.



1. A translation and a reflection. Label your sketch Figure B.  
Pause here so your teacher can review your work.
2. A reflection and a dilation with scale factor greater than 1. Label your sketch Figure C.
3. A rotation and a reflection. Label your sketch Figure D.
4. A dilation with scale factor less than 1 and a translation. Label your sketch Figure E.

## 4 Methods for Translations and Dilations (Optional)

### Student Task Statement

Your teacher will give you a set of five cards and your partner a different set of five cards. Using only the cards you were given, find at least one way to show that triangle  $ABC$  and triangle  $DEF$  are similar. Compare your method with your partner's method. What is the same about your methods? What is different?

