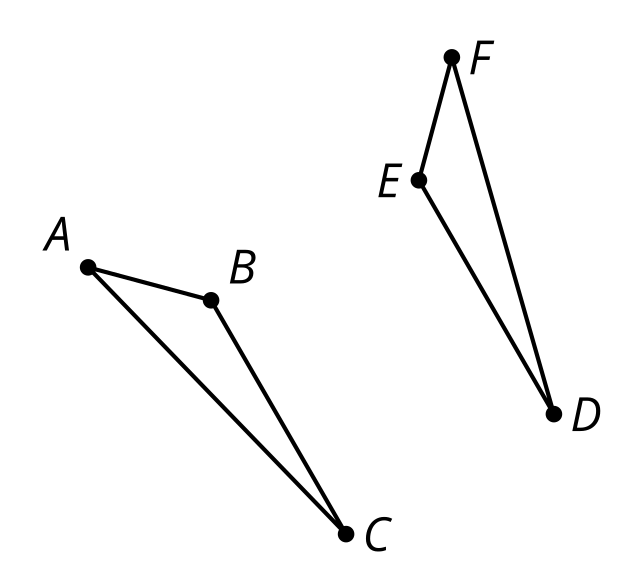
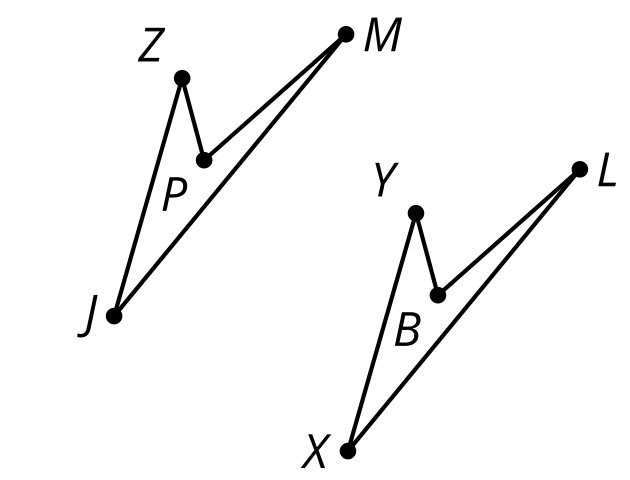
## Lesson 2: Congruent Parts, Part 2

* Let’s name figures in ways that help us see the corresponding parts.

### 2.1: Math Talk: Which Are Congruent?

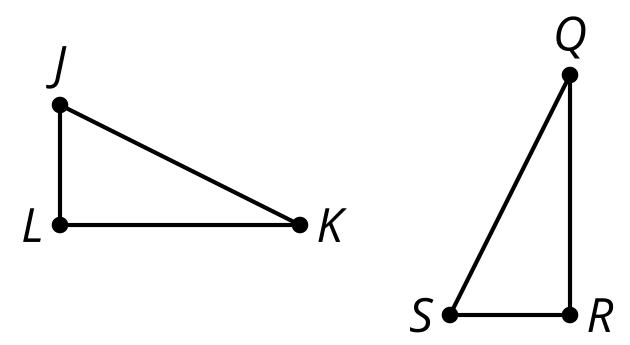
Each pair of figures is congruent. Decide whether each congruence statement is true or false.

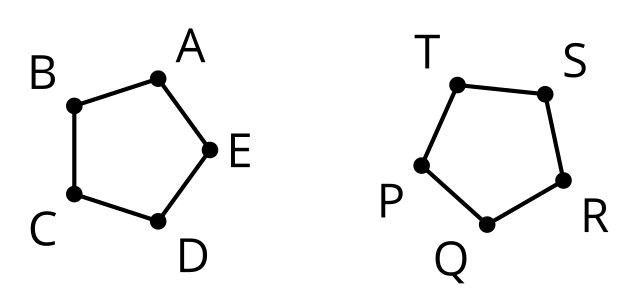




Triangle  is congruent to triangle .

Quadrilateral  is congruent to quadrilateral .



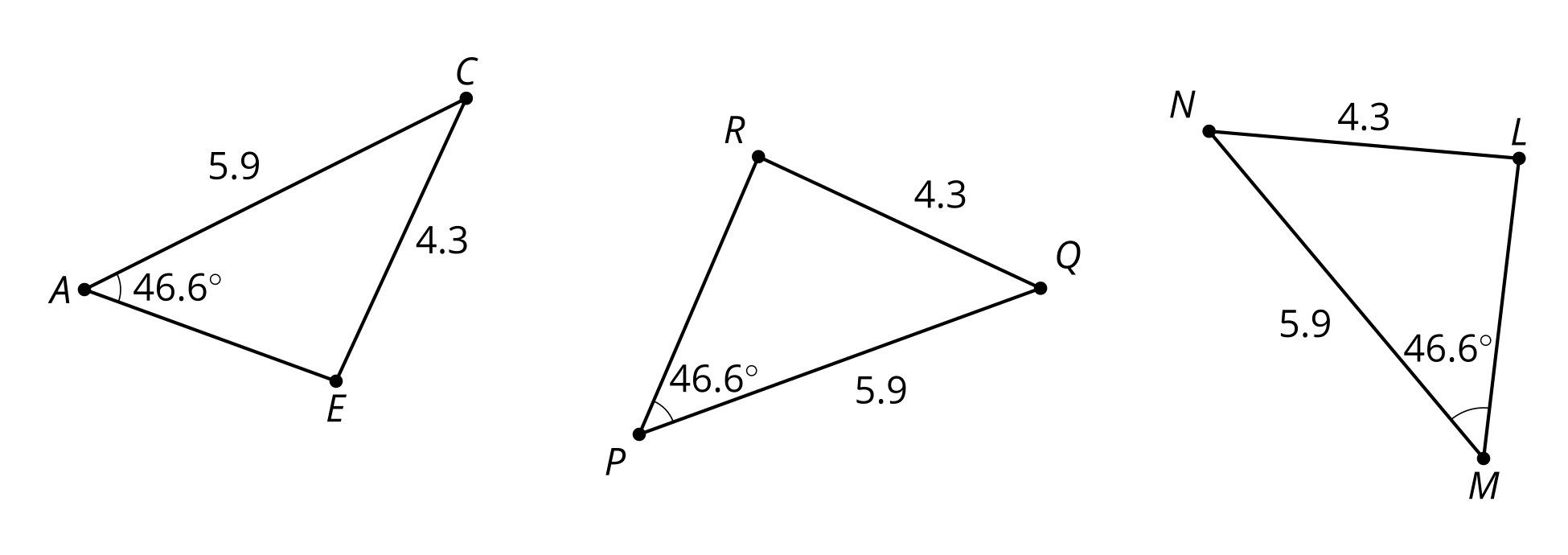


Triangle  is congruent to triangle .

Pentagon  is congruent to pentagon .

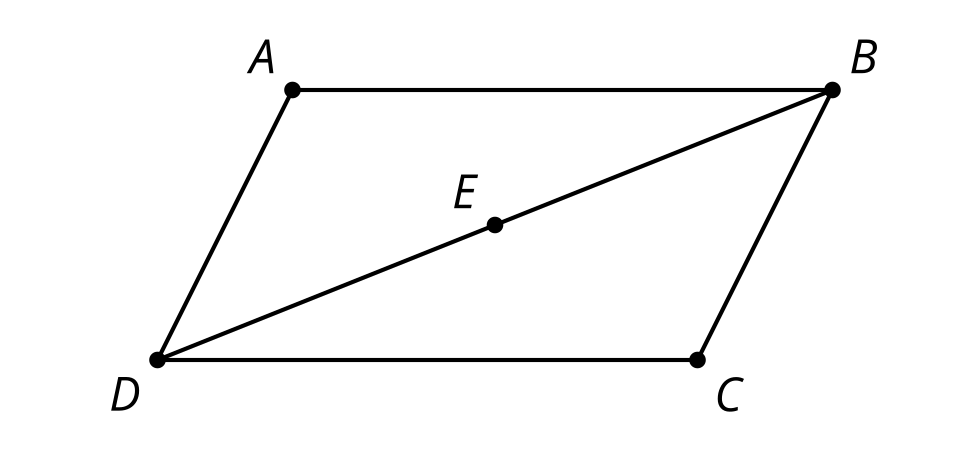
### 2.2: Which Triangles Are Congruent?

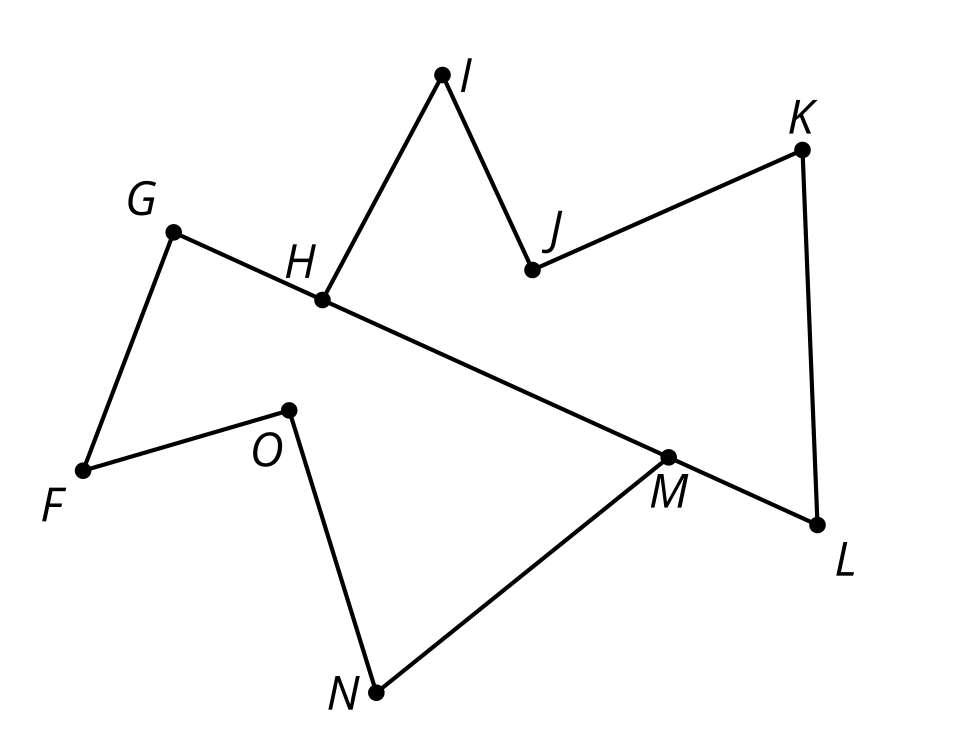
Here are 3 triangles.



1. Triangle is congruent to which triangle? Explain your reasoning.
2. Show a sequence of rigid motions that takes triangle  to that triangle. Draw each step of the transformation.
3. Explain why there can’t be a rigid motion from triangle  to the other triangle.

### 2.3: Are These Parts Congruent?





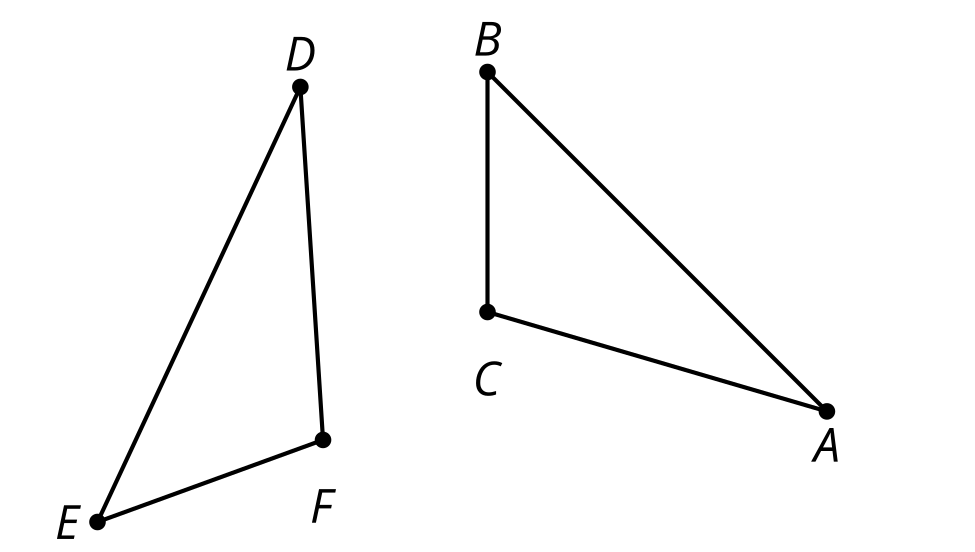
1. Triangle is a rotation of triangle around point by . Is angle congruent to angle ? If so, explain your reasoning. If not, which angle is congruent to?
2. Polygon is a reflection and translation of polygon . Is segment congruent to segment ? If so, explain your reasoning. If not, which segment is congruent to?
3. Quadrilateral is a rotation of polygon . Is angle congruent to angle ? If so, explain your reasoning. If not, which angle is congruent to?

#### Are you ready for more?

Suppose quadrilateral was both a rotation of quadrilateral and also a reflection of quadrilateral . What can we conclude about the shape of our quadrilaterals? Explain why.

### Lesson 2 Summary

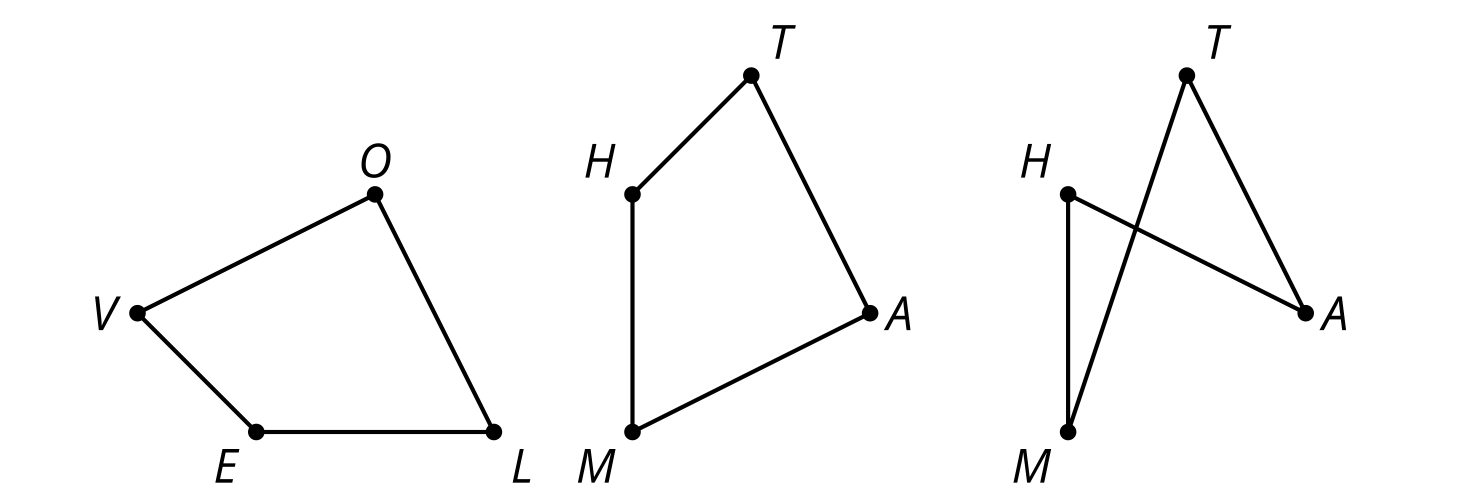
Naming congruent figures so it’s clear from the name which parts correspond makes it easier to check whether 2 figures are congruent and to use corresponding parts. In this image, segment  appears to be congruent to segment . Also, segment  appears to be congruent to segment . So, it makes more sense to conjecture that triangle is congruent to triangle  than to conjecture triangle  is congruent to triangle .



If we are told quadrilateral is congruent to quadrilateral , without even looking at the figures we know:

* Angle is congruent to angle .
* Angle is congruent to angle .
* Angle is congruent to angle .
* Angle is congruent to angle .
* Segments  and  are congruent.
* Segments  and  are congruent.
* Segments  and  are congruent.
* Segments  and  are congruent.

Quadrilaterals and can be named in many different ways so that they still correspond—such as  is congruent to  or  is congruent to . But  is congruent to  means there are different corresponding parts. Note that quadrilateral refers to a different way of connecting the points than quadrilateral .





© CC BY 2019 by Illustrative Mathematics®