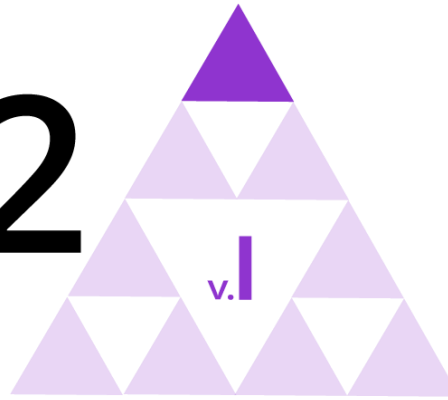


IM 9–12 MATH



Unit 2 Congruence



Lesson 1

Congruent Parts, Part 1

Learning Goal

Let's figure out what the corresponding sides and angles in figures have to do with congruence.

Geometry

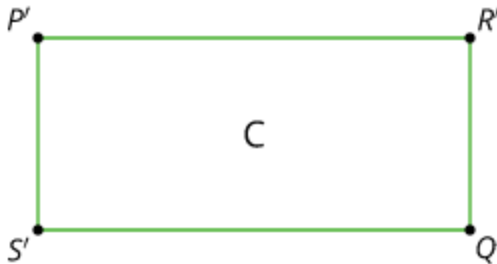
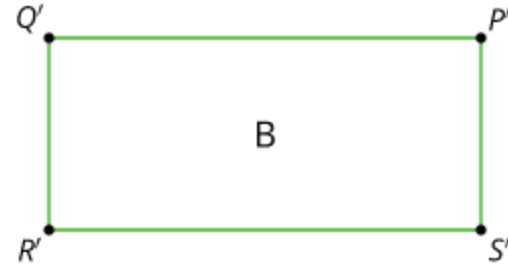
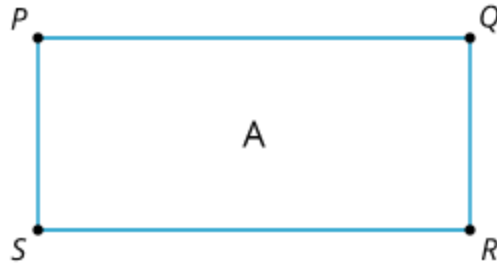


Transformed Rectangles



Warm-up: Notice and Wonder

What do you notice? What do you wonder?

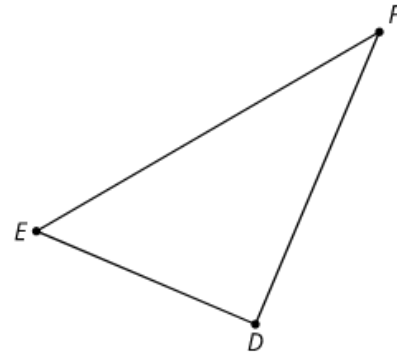
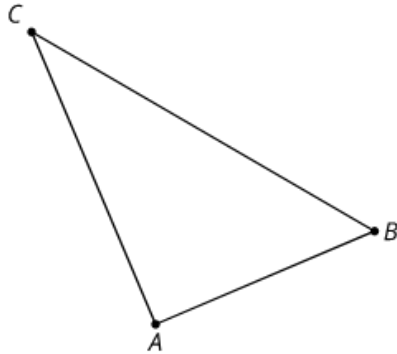


If We Know This, Then We Know That...



Triangle ABC is congruent to triangle DEF .

$$\triangle ABC \cong \triangle DEF$$



1. Find a sequence of rigid motions that takes triangle ABC to triangle DEF .
2. What is the image of segment BC after that transformation?
3. Explain how you know those segments are congruent.
4. Justify that angle ABC is congruent to angle DEF .

Making Quadrilaterals



1. Draw a triangle.
2. Find the midpoint of the longest side of your triangle.
3. Rotate your triangle 180° using the midpoint of the longest side as the center of the rotation.
4. Label the **corresponding** parts and mark what must be congruent.
5. Make a conjecture and justify it.
 - a. What type of quadrilateral have you formed?
 - b. What is the definition of that quadrilateral type?
 - c. Why must the quadrilateral you have fit the definition?



Write down your reason for why corresponding parts of congruent figures must be congruent.

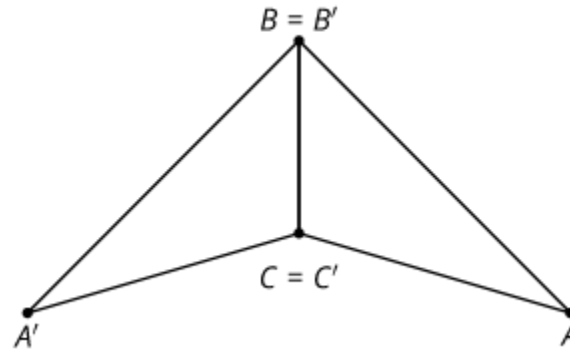
Unit 2 • Lesson 1

- I can identify corresponding parts from a congruence statement.
- I can use rigid transformations to figure out if figures are congruent.
- I can write a congruence statement.

Learning Targets

Geometry



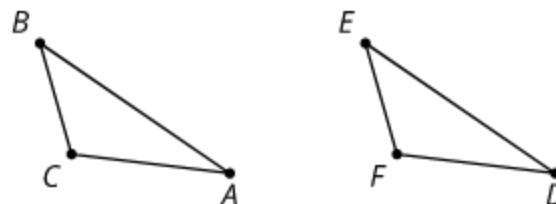


Triangle $A'B'C'$ is a reflection of triangle ABC across line BC . Prove that ray BC is the angle bisector of angle ABA' .



corresponding

For a rigid transformation that takes one figure onto another, a part of the first figure and its image in the second figure are called corresponding parts. We also talk about corresponding parts when we are trying to prove two figures are congruent and set up a correspondence between the parts to see if the parts are congruent.



In the figure, segment AB corresponds to segment DE , and angle BCA corresponds to angle EFD .



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