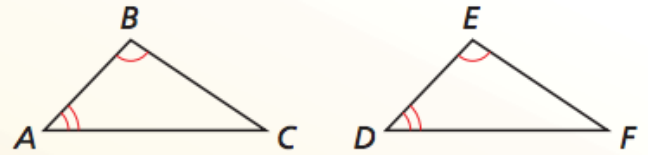


Geometry 5.2 Notes: Congruent Polygons and Corresponding Parts

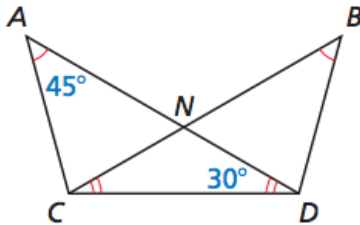
Third Angles Theorem

If two angles of one triangle are congruent to two angles of another triangle, then the third angles are also congruent.

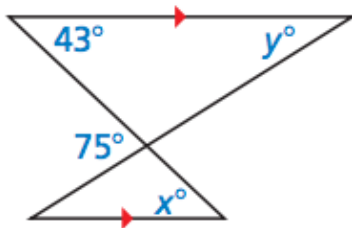


Examples:

- Find $m\angle BDC$.



- Find the values of x and y .

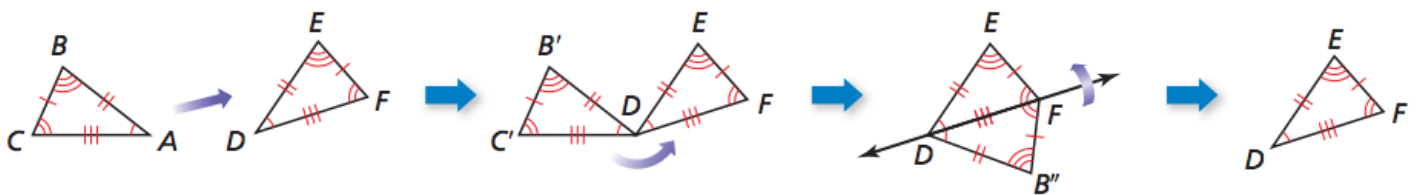


From Chapter 4: Two figures are congruent if and only if a rigid motion or a composition of rigid motions maps each part of a figure onto the other.

→ A rigid motion maps each part of a figure to a **corresponding part** of its image.

→ Because rigid motions preserve length and angle measure, corresponding parts of congruent figures are congruent. This means that corresponding _____ and corresponding _____ are _____.

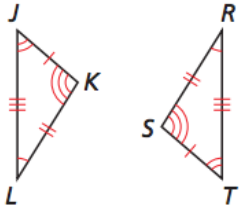
Using Rigid Motions to prove two figures are congruent



Now that we know the two triangles above are congruent, we can write a _____.

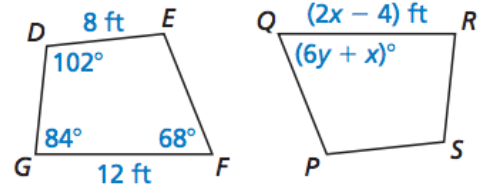
Example:

3. Write a congruence statement for the triangles. Identify all parts of congruent, corresponding parts.



4. In the diagram, $DEFG \cong SPQR$.

a. Find the value of x .

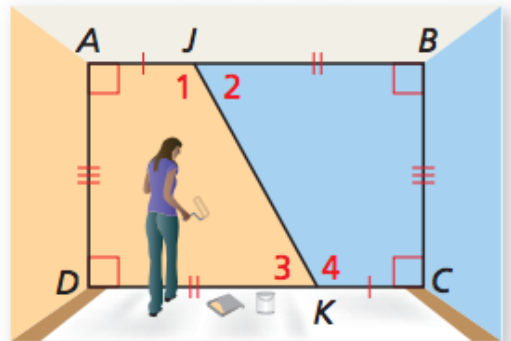


b. Find the value of y .

Showing That Figures are Congruent

Example:

5. You divide the wall into orange (left) and blue (right) sections along \overline{JK} . Will the sections of the wall be the same size and shape? Explain.



Properties of Triangle Congruence

Reflexive:

Symmetric:

Transitive: