Geometry

4.4 Congruence and Transformations
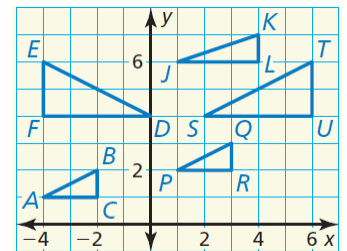
....

Congruent (≅)

Exactly the same _____ and _____.

_____

_____
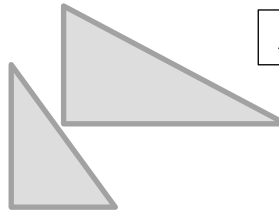
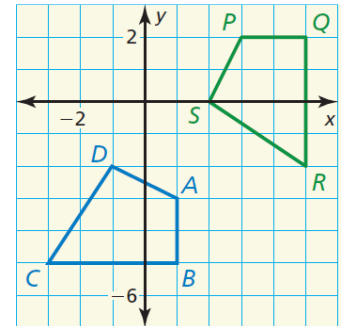**Identify any congruent figures in the coordinate plane. Explain.**

Congruence Transformation

- Transformation with _____
- _____ ≅ _____

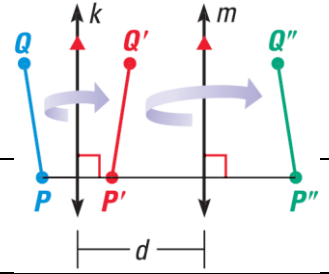**Describe a congruence transformation that maps quadrilateral *ABCD* to quadrilateral *PQRS*.**

Reflections in Parallel Lines Theorem

If lines k and m are _____, then a _____ in _____ followed by a reflection in _____ is the same as a
_____.

If *P″* is the image of *P*, then

$\overline{PP''}$ is _____ to *k* and *m*, and
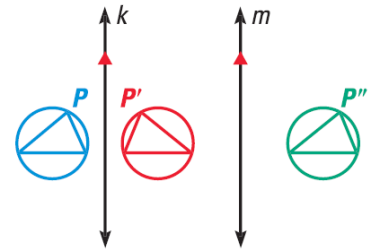
PP″ = _____ where *d* is the _____ between *k* and *m*

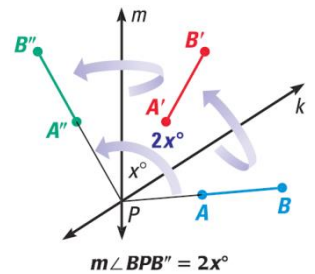Use the figure below. The distance between line *k* and *m* is 1.6 cm.

       1. The preimage is reflected in line *k*, then in line *m*. Describe a single transformation that maps the blue figure to the green.

       2. What is the distance from *P* and *P″*?

Reflections in Intersecting Lines Theorem

If lines *k* and *m* _____ at point *P*, then a _____ in _____ followed by a reflection in _____ is the same as a
_____ about point *P*.

The _____ is _____, where *x°* is the measure of the _____ or _____ angle formed *k* and *m*.

m∠ BPB″ = 2x°

In the diagram, the preimage is reflected in line *k*, then in line *m*. Describe a single transformation that maps the bottom right figure to the top left.
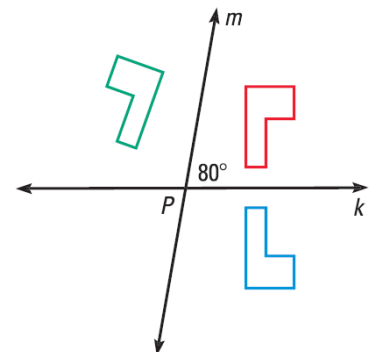
Assignment: 196 #2, 4, 6, 8, 10, 12, 14, 15, 16, 18, 20, 24, 26, 28, 35, 36, 42, 46, 49, 50 = 20