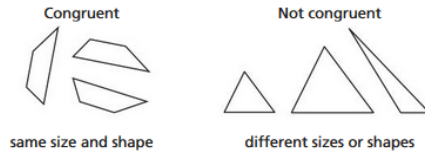
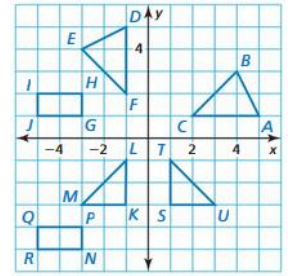


Notes

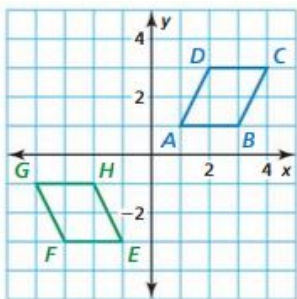
Two figures are congruent *if and only if*



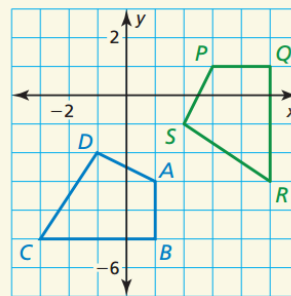
Identify any congruent figures below. Explain.



Congruent Transformations



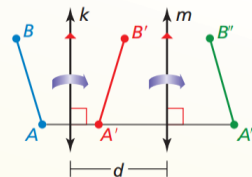
Describe a congruence transformation that maps quadrilateral ABCD to quadrilateral PQRS.



Theorem 4.2 Reflections in Parallel Lines Theorem

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

If A'' is the image of A , then

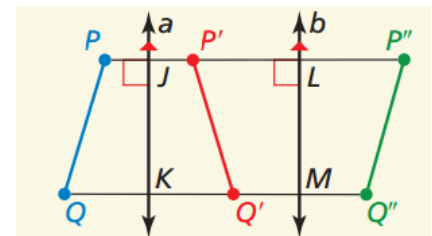


In the diagram, a reflection in line a maps \overline{PQ} to $\overline{P'Q'}$. A reflection in line b maps $\overline{P'Q'}$ to $\overline{P''Q''}$. $PJ = 3$ and $LP'' = 8$.

Name any segments congruent to \overline{PQ} , $\overline{P'J}$, and $\overline{Q'K}$.

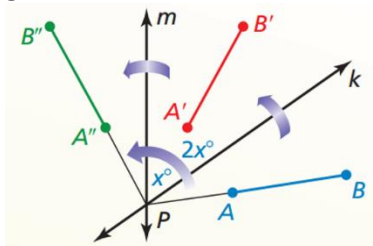
Does $JK = LM$? Explain.

What is the length of $\overline{P'P''}$?



Reflections in Intersecting Lines Theorem

If lines k and m intersect at point P , then a reflection in line k followed by a reflection in line m is the same as a rotation about point P . The angle of rotation is _____



In the diagram, the figure is reflected in line k . The image is then reflected in line m .

Describe a single transformation that maps F to F'' .

