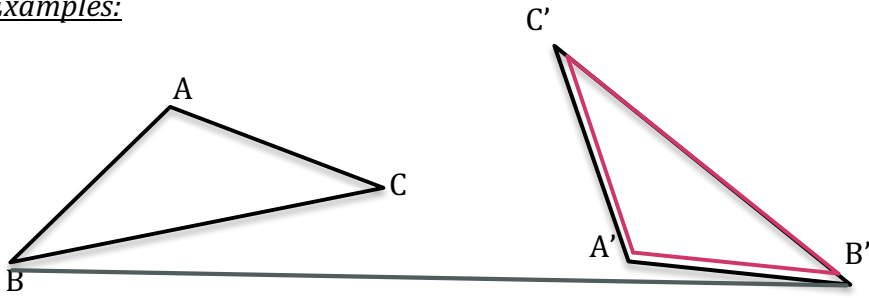


LEARNING OBJECTIVE: We will define the concept of congruence and determine if geometric figures are congruent. (G8M2L7)

CONCEPT DEVELOPMENT:

Congruence: Two geometric figures are congruent to each other if there is a sequence of rigid motions that can map from one figure to the other.

Examples:



IS
CONGRUENT
TO

$\triangle ABC \cong \triangle A'B'C'$ because a series of rigid motions (specifically a rotation and a translation) can map one figure onto another.



$S \cong S'$ because a series of rigid motions can map one figure onto another.

Non-example:

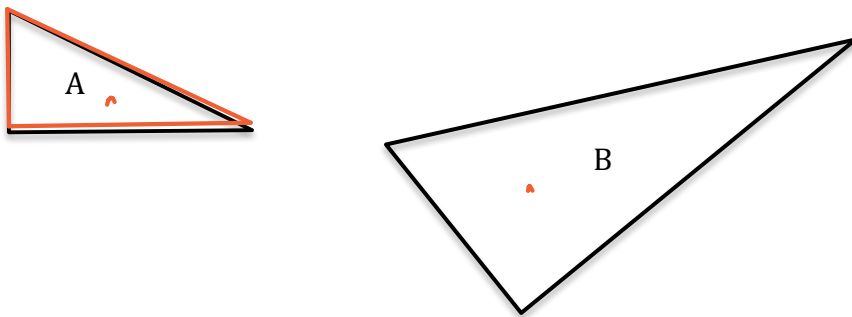


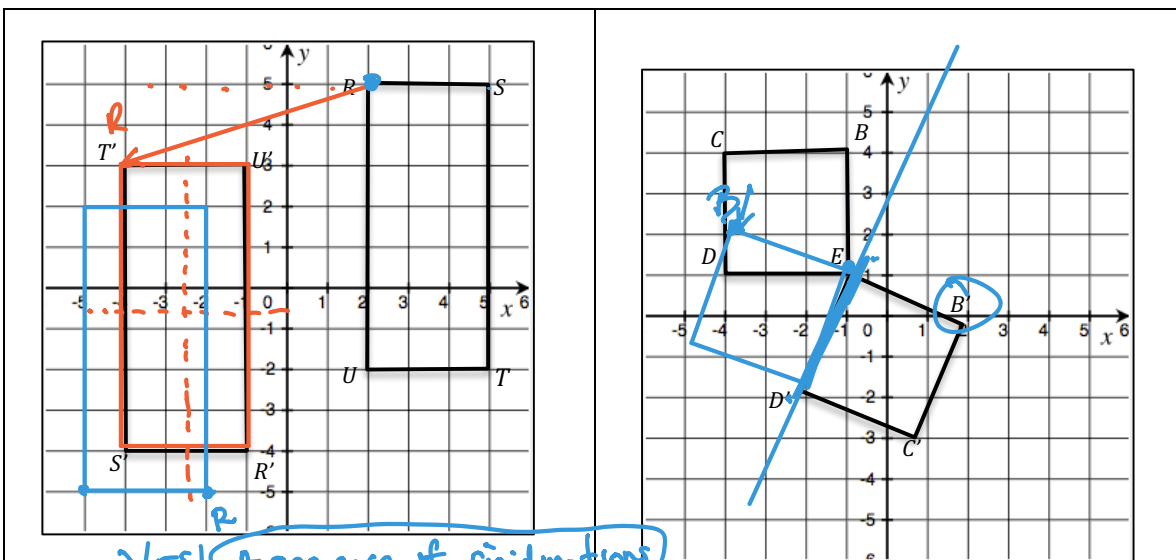
Figure A is NOT congruent to Figure B because you CANNOT map one figure onto another with a series of rigid motions.

You would need a dilation, and dilations are NOT rigid motions.

GUIDED PRACTICE:

Steps for Determining Congruence of Geometric Figures

1. Study the two figures carefully.
2. Try to perform a sequence of rigid motions to determine if one figure maps onto the other.
3. If a sequence of rigid motions exists, the two objects are congruent. If not, the objects are NOT congruent.

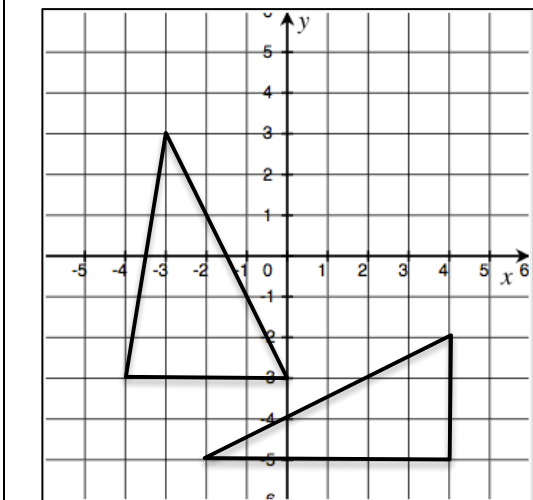


Congruent? How do you know?

REFLECT REFLECT
 $T(-6, -2)$, $X = -2.5$, $Y = -0.5$
 ROT 180° around $(0, 0)$, $T(1, 1)$

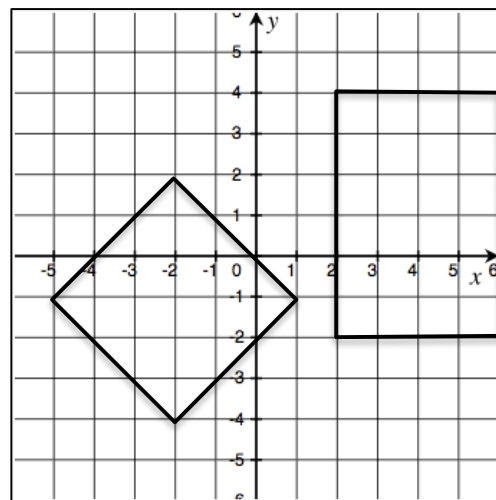
YES! A sequence of rigid motions maps one shape to another

Congruent? How do you know?
 YES!
 Rotate 60° around $(-1, 1)$
 REFLECT over $\overline{E'D'}$



Congruent? How do you know?

No! There is not a sequence of rigid motions that maps one shape onto the other.



Congruent? How do you know?

No!

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INDEPENDENT PRACTICE:

State whether or not the two figures are congruent, and how you can tell one way or another.

	<p>Reflect $x = -1$, $T_{(1, -1)}$</p>

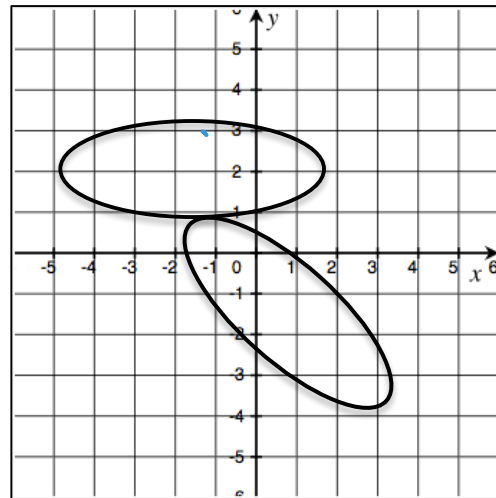
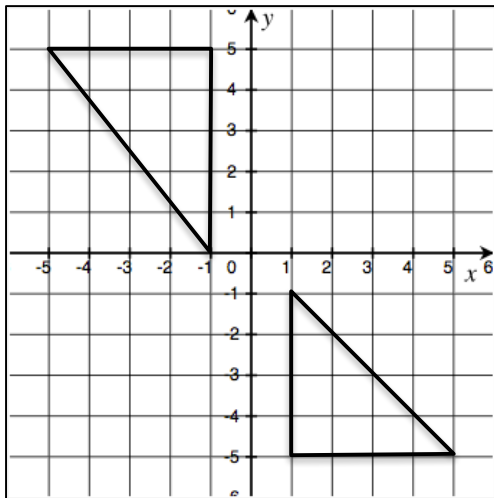
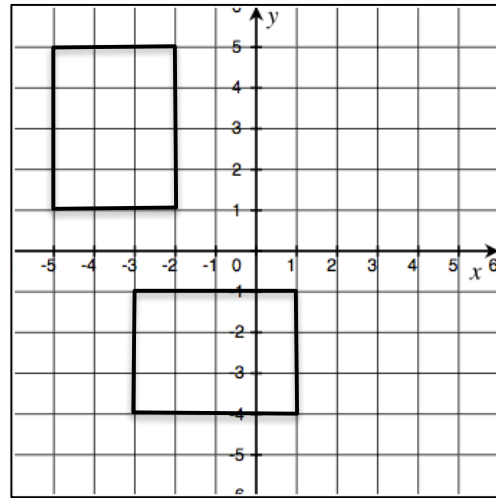
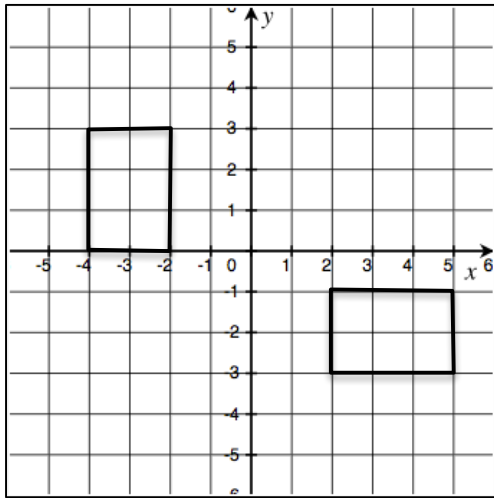
<p>No! Not same shape. No rigid motions that could map one shape onto another.</p>	

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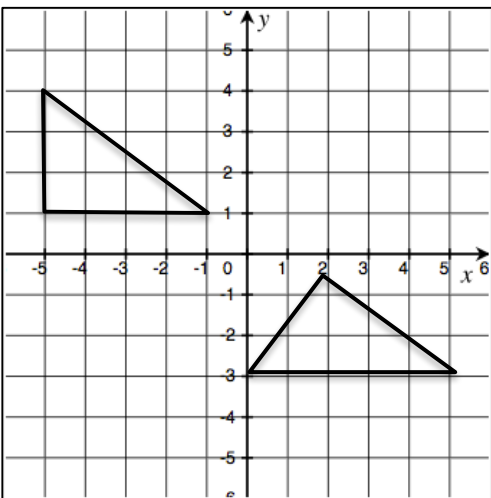
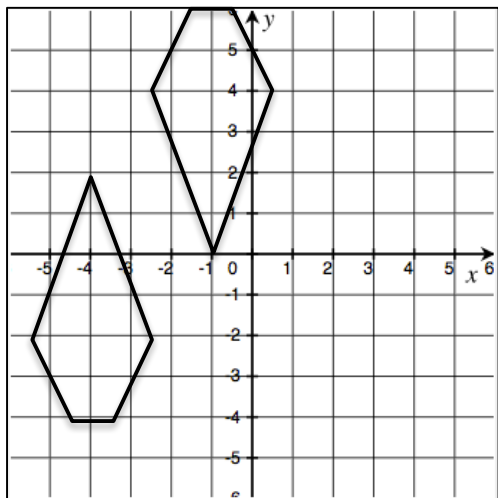
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ACTIVATING PRIOR KNOWLEDGE:

We can identify the sequence of rigid motions needed to get from one figure to another.

 <p>What would you do to map one figure onto the other?</p>	 <p>What would you do to map one figure onto the other?</p>
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CLOSURE:

Give exit ticket from ENY lesson 11.

TEACHER NOTES: