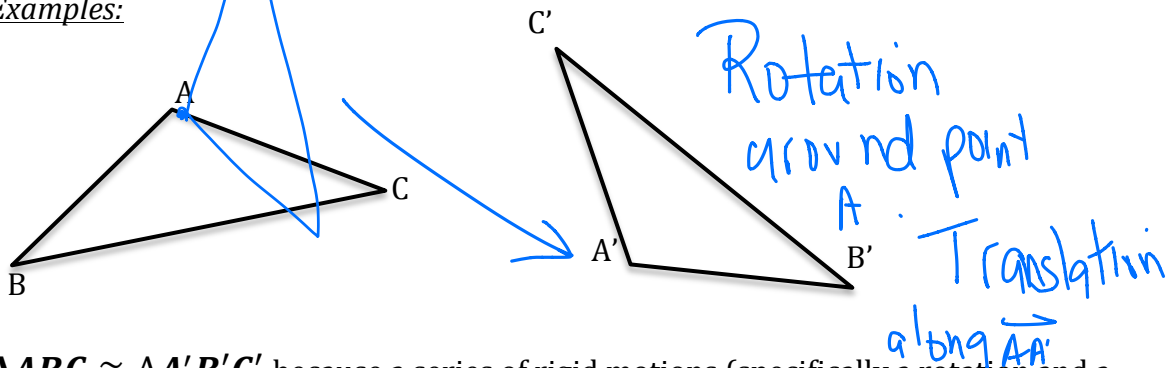


LEARNING OBJECTIVE: We will define the concept of congruence and determine if geometric figures are congruent. (G8M2L8)

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:



$\triangle ABC \cong \triangle A'B'C'$ 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:

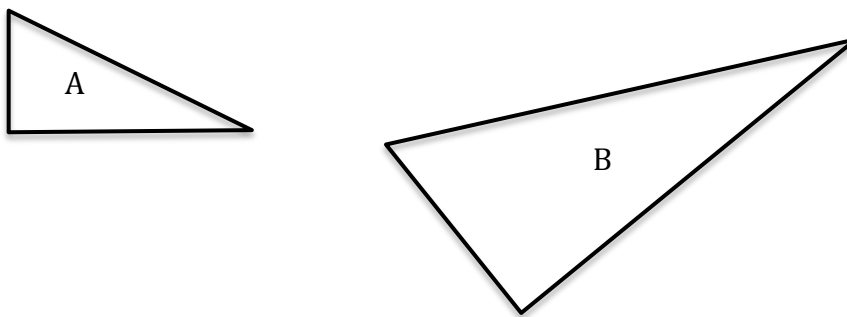
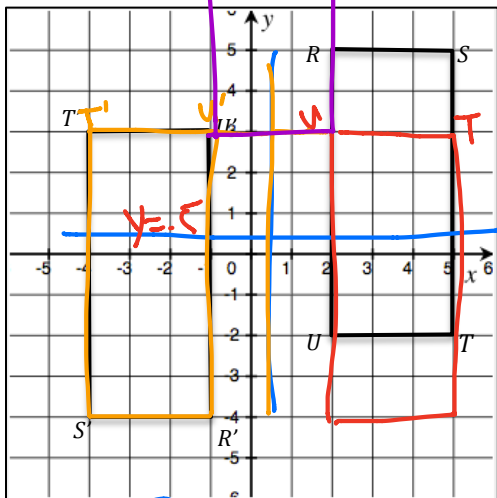


Figure A is NOT congruent to Figure B because you CANNOT map one figure onto another with a series of rigid motions.

GUIDED PRACTICE:

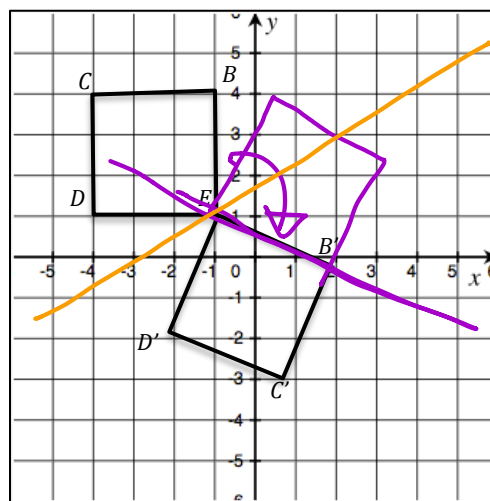
Steps for Determining Congruence of Geometric Figures

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.



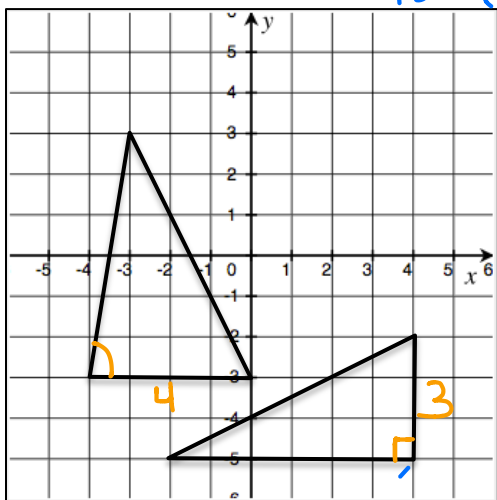
Congruent? How do you know?

Yes $T(6, -2)$
 Reflect $y = -5$, Reflect $x = 5$
 Rotate $180^\circ (-5, 5)$



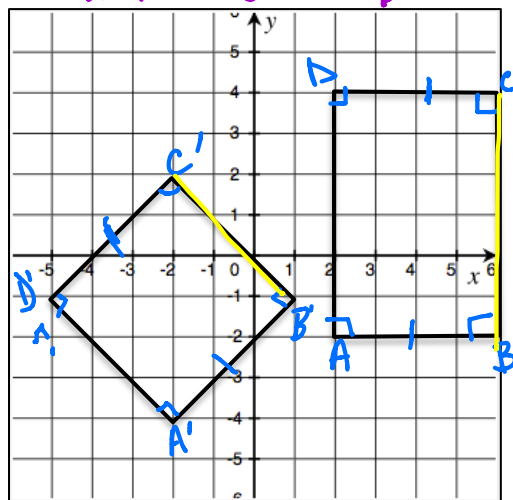
Congruent? How do you know?

Yes, Rotate $(-1, 1)$ 110° clockwise
 Reflect over $\vec{EB'}$



Congruent? How do you know?

No. No rigid motions map 1 triangle to the other.



Congruent? How do you know?

No. No rigid motion map one shape to the other.

NAME: _____

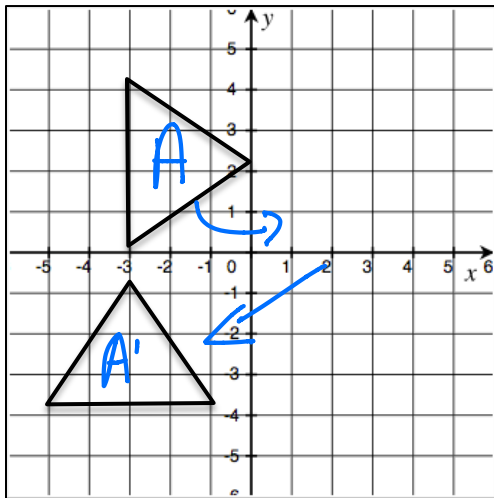
Math _____, Period _____

Mr. Rogove

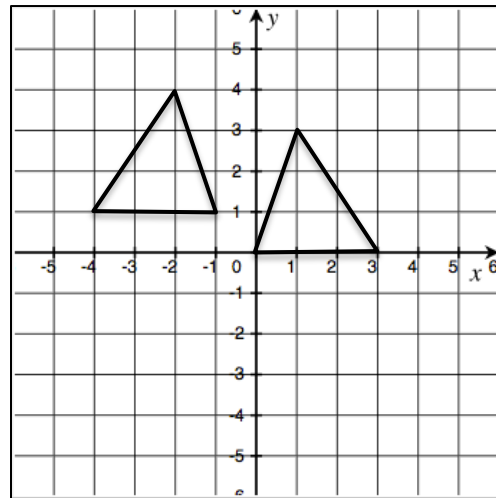
Date: _____

INDEPENDENT PRACTICE:

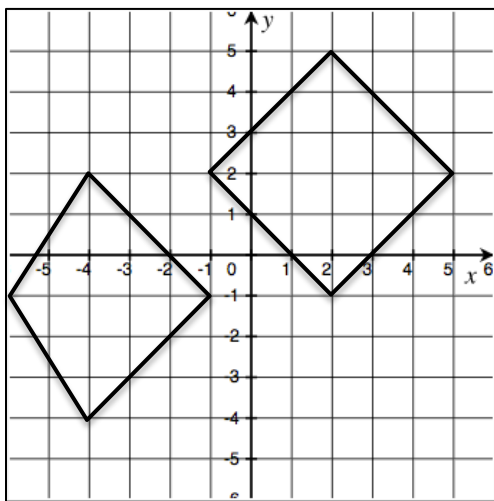
State whether or not the two figures are congruent, and how you can tell one way or another.



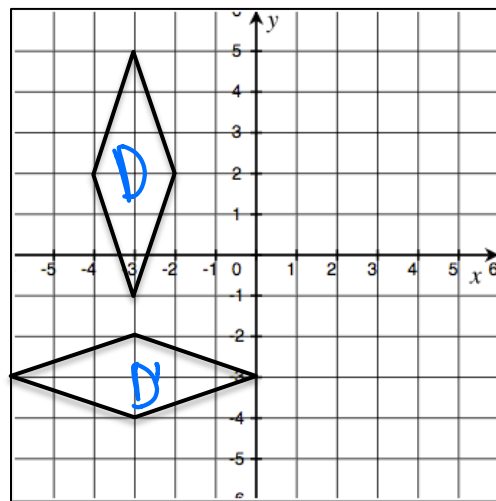
Yes, Rotate $\frac{1}{4}$ translate



Yes, reflect & translate



No. No rigid motions map one shape to the other.



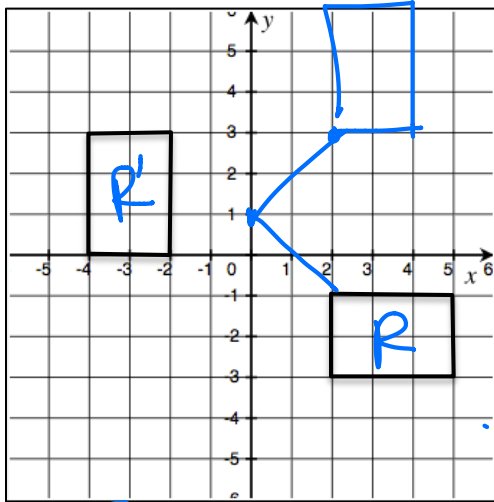
Yes. Rotate & translate

NAME: _____

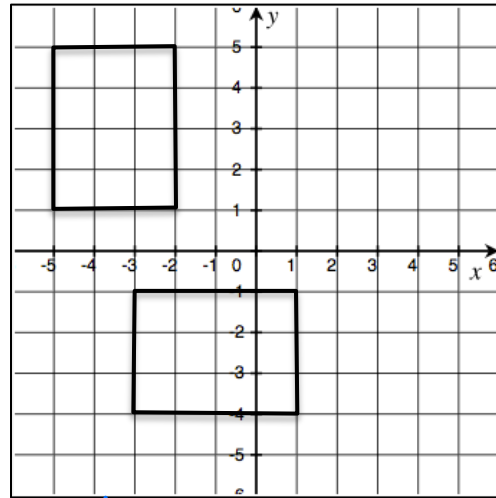
Math _____, Period _____

Mr. Rogove

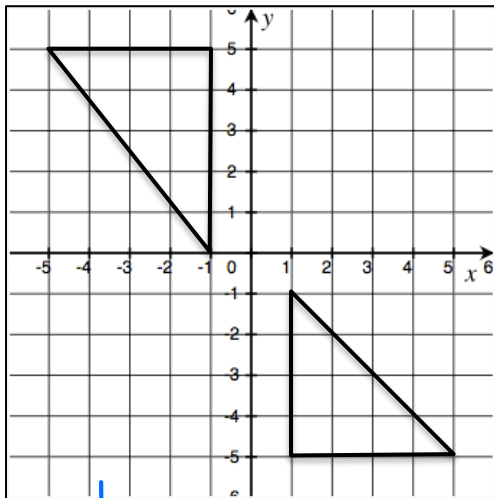
Date: _____



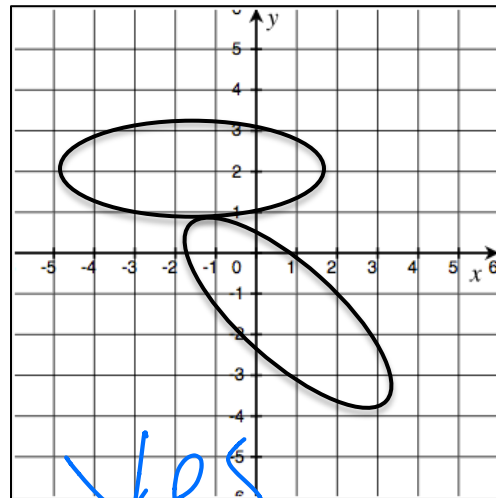
Yes. Rotate 90° around $(-6, -3)$
 $T(-6, -3)$



Yes



No



Yes

NAME: _____

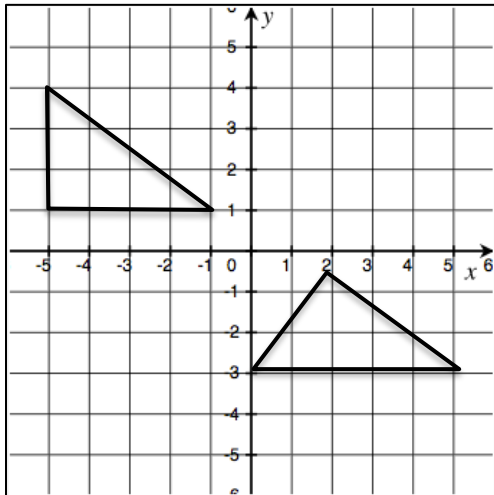
Math _____, Period _____

Mr. Rogove

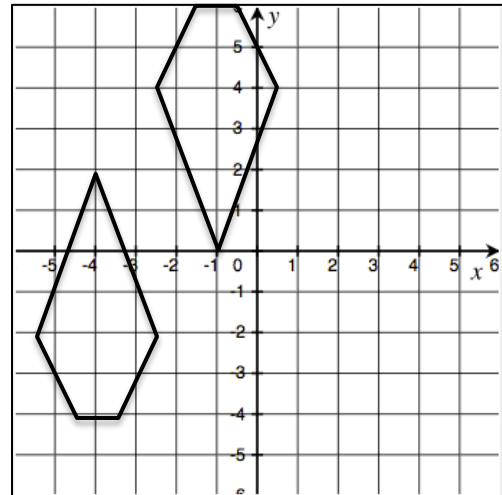
Date: _____

ACTIVATING PRIOR KNOWLEDGE:

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



What would you do to map one figure onto the other?



What would you do to map one figure onto the other?

CLOSURE:

Give exit ticket from ENY lesson 11.

TEACHER NOTES: