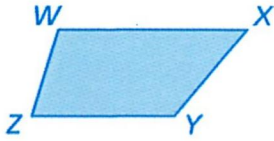


Blue Ch 2.1-2.4 Test Review Packet

Problem Solving Applications

2.1 Congruent Figures: Practice Applications

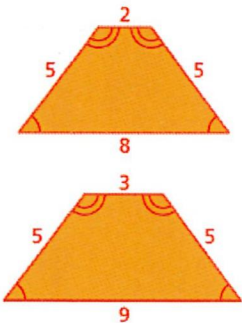


Name an angle in the figure  $\angle W$  (OR  $\angle X$  OR  $\angle Y$  OR  $\angle Z$ )

Name a side length in the figure  $\overline{WX}$  (OR  $\overline{XY}$  OR  $\overline{YZ}$  OR  $\overline{ZW}$ )

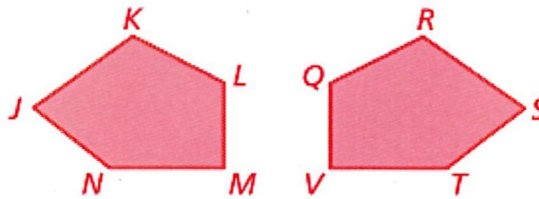
Name the symbol that represents "congruent"  $\cong$

Tell whether the two figures are congruent. Explain your reasoning.



No. The <sup>corresponding</sup> angles are congruent, but corresponding sides are not congruent.

The figures are congruent.  
Name the corresponding angles and the corresponding sides.

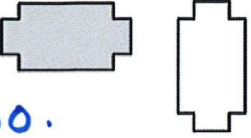


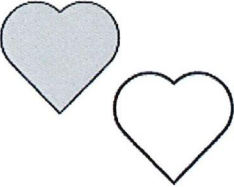
$\angle K \cong \angle R$   
 $\angle L \cong \angle S$   
 $\angle M \cong \angle T$   
 $\angle N \cong \angle V$   
 $\angle J \cong \angle Q$

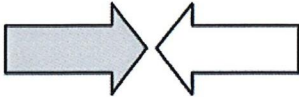
$\overline{JK} \cong \overline{RQ}$   
 $\overline{KL} \cong \overline{RS}$   
 $\overline{LM} \cong \overline{ST}$   
 $\overline{MN} \cong \overline{TV}$   
 $\overline{NJ} \cong \overline{VQ}$

2.2 Translations

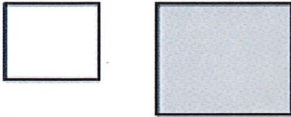
Tell whether the shaded figure is a **translation** *SLIDE* of the nonshaded figure.

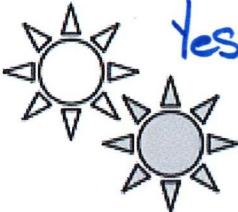
1.   
*No. Rotation.*


2.   
*Yes.*

3.   
*No. Reflection*

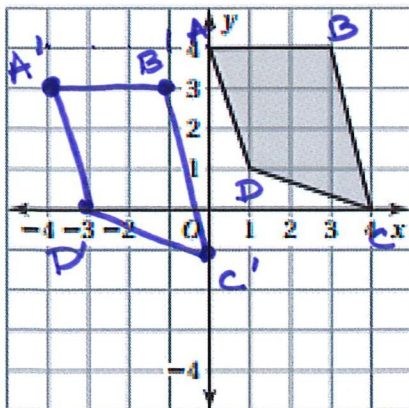
4.   
*Yes.*

1.   
*No. Dilation*

2.   
*Yes.*

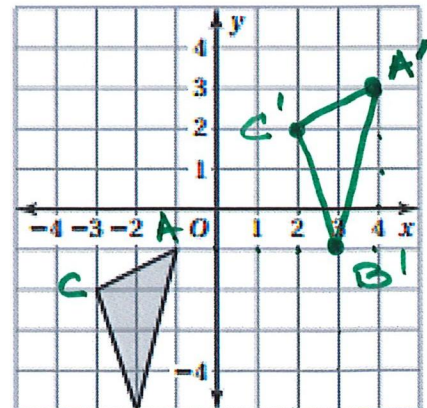
3.   
*No. Rotation*

4. Translate the figure 4 units left and 1 unit down. What are the coordinates of the image?



$A'(-4, 3)$   $B'(-1, 3)$   
 $C'(0, -1)$   $D'(-3, 0)$

5. Translate the triangle 5 units right and 4 units up. What are the coordinates of the image?



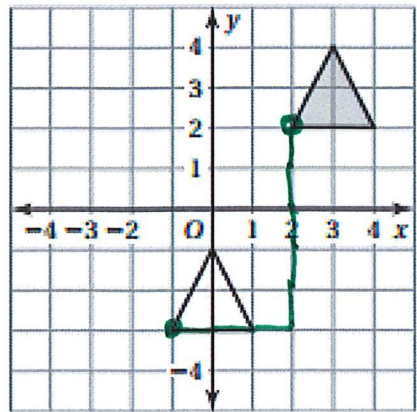
$A'(4, 3)$   $B'(3, -1)$   
 $C'(2, 2)$

Describe the translation from the shaded figure to the nonshaded figure.

Move left 3 and down 5

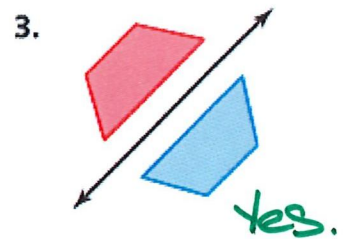
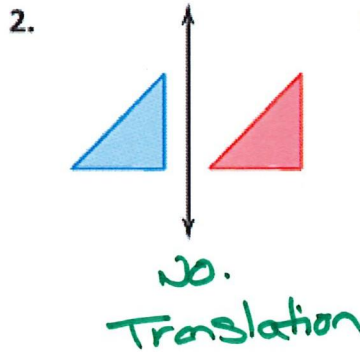
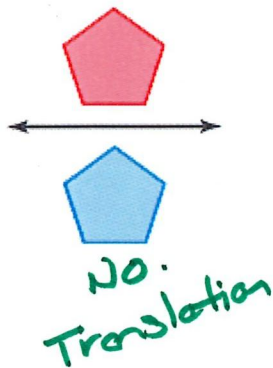
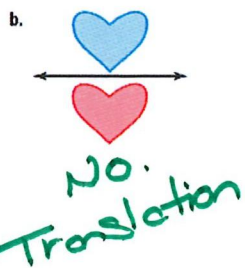
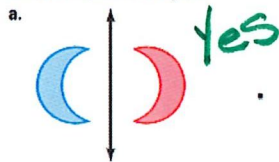
OR

$$(x-3, y-5)$$

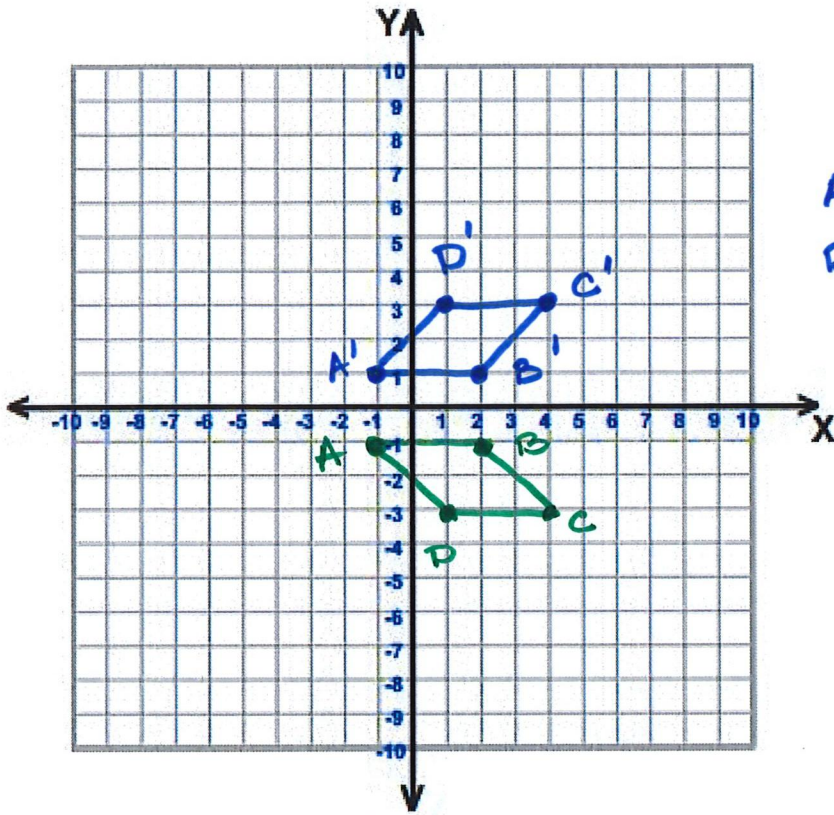


### 2.3 Reflections

Tell whether the blue figure is a reflection of the red figure.

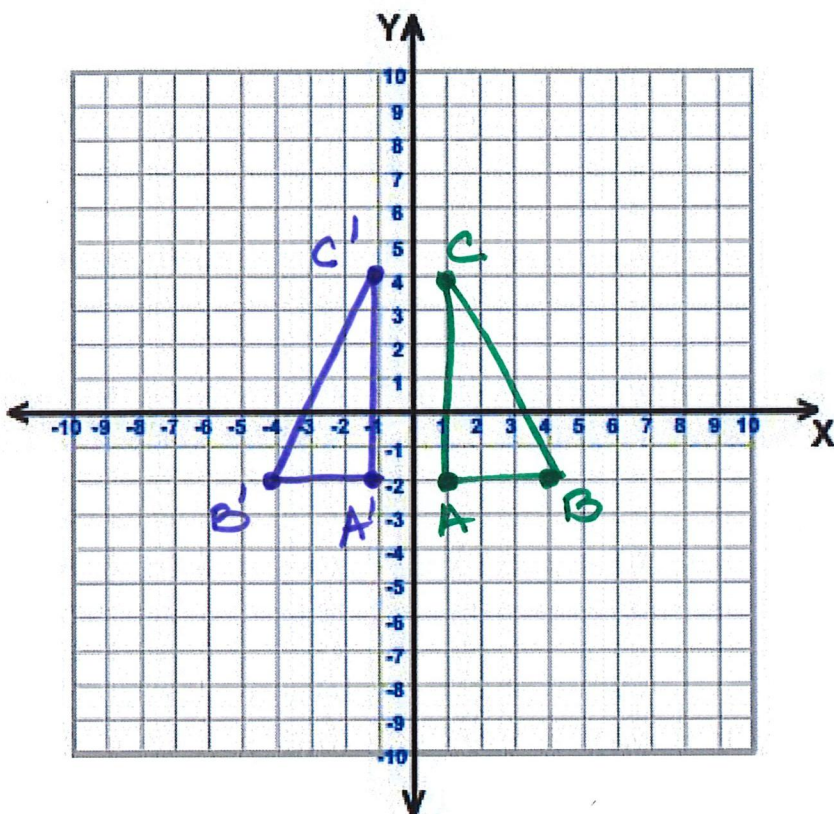


The vertices of a parallelogram are  $A(-1, -1)$ ,  $B(2, -1)$ ,  $C(4, -3)$ , and  $D(1, -3)$ . Draw the figure and its reflection in the  $x$ -axis. What are the coordinates of the image?



$A'(-1, 1)$   
 $B'(2, 1)$   
 $C'(4, 3)$   
 $D'(1, 3)$

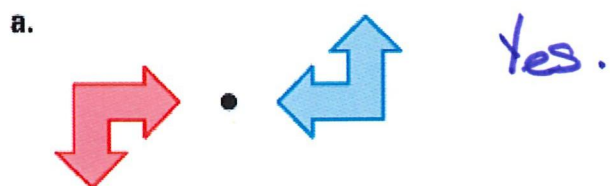
The vertices of a triangle are  $A(1, -2)$ ,  $B(4, -2)$ , and  $C(1, 4)$ . Draw the figure and its reflection in the  $y$ -axis.



## 2.4 Rotations

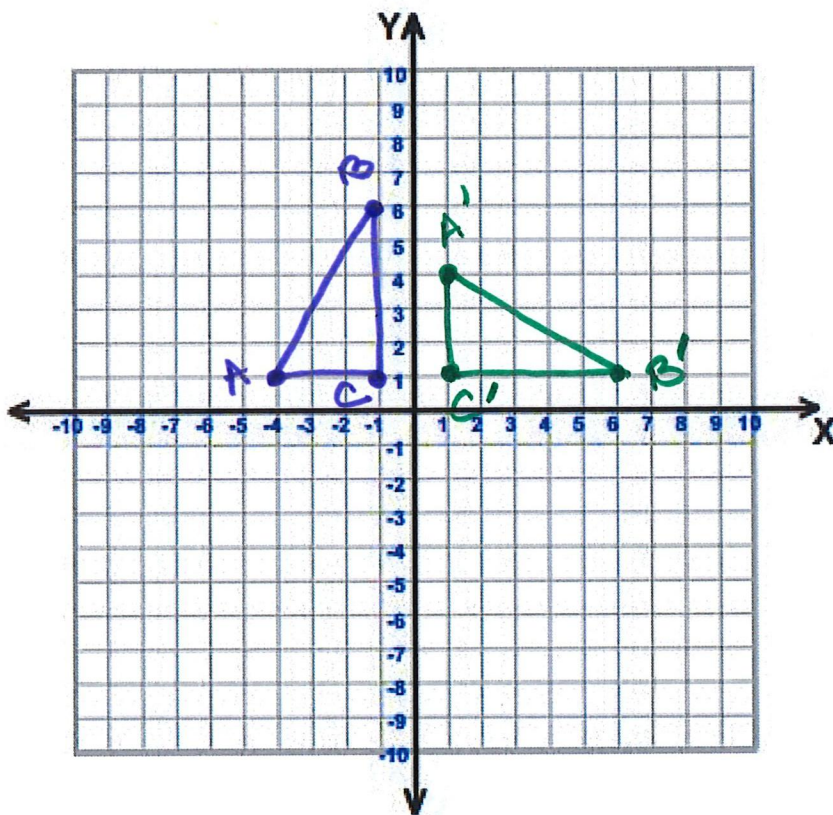
### Extra Example 1

Tell whether the blue figure is a  $180^\circ$  clockwise rotation of the red figure.



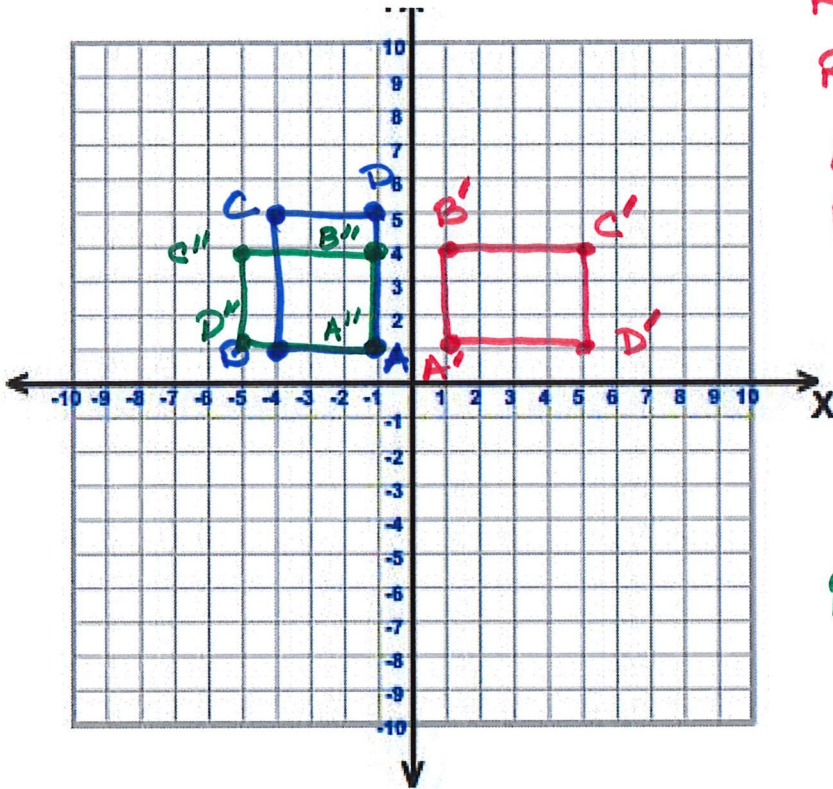
The vertices of a triangle are  $A(-4, 1)$ ,  $B(-1, 6)$ , and  $C(-1, 1)$ . Rotate the triangle  $90^\circ$  clockwise about the origin. What are the coordinates of the image?

Rule  $(y, -x)$



$A'(1, 4)$   
 $B'(6, 1)$   
 $C'(1, 1)$

The vertices of a rectangle are  $A(-1, 1)$ ,  $B(-4, 1)$ ,  $C(-4, 5)$ , and  $D(-1, 5)$ . Rotate the rectangle  $90^\circ$  clockwise about the origin, and then reflect it in the  $y$ -axis. What are the coordinates of the image?



Rotate  $90^\circ$  ↻

Rule  $(y, -x)$

$A'(1, 1)$

$B'(1, 4)$

$C'(5, 4)$

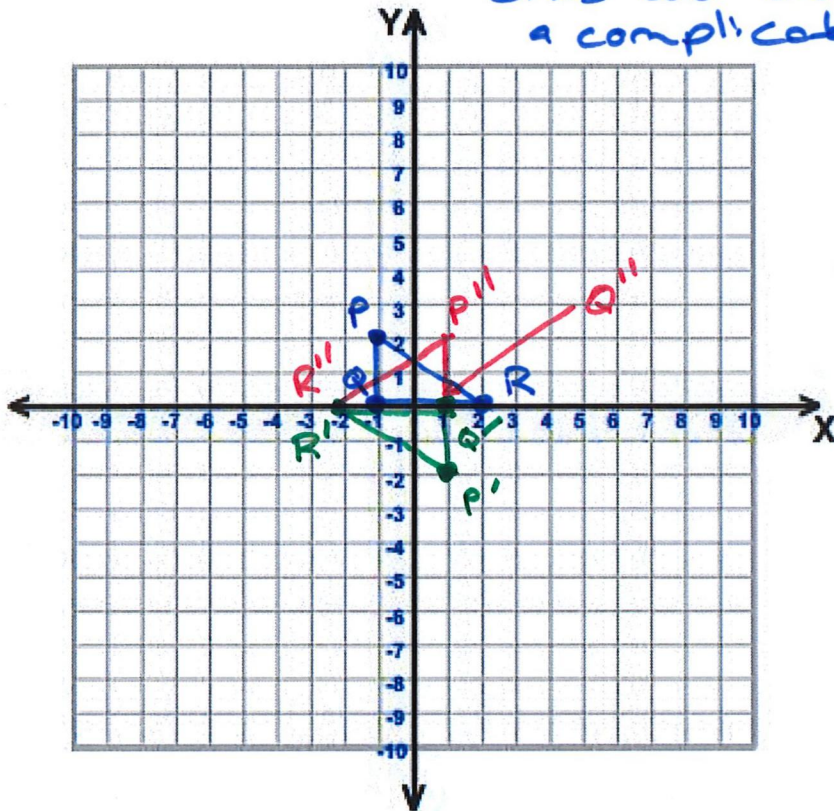
$D'(5, 1)$

Reflect in  
 $y$ -axis

Rule  $(-x, y)$

The vertices of a triangle are  $P(-1, 2)$ ,  $Q(-1, 0)$ , and  $R(2, 0)$ . Rotate the triangle  $180^\circ$  about vertex  $R$ , and then reflect it in the  $x$ -axis. What are the coordinates of the image?

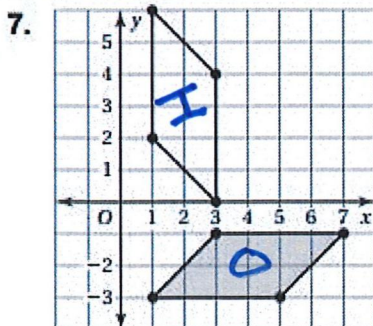
Note: You won't have images that cross over each other in such a complicated way on the test!



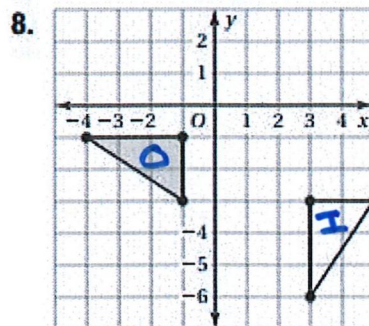
$$\begin{aligned} P' & (1, -2) \\ Q' & (1, 0) \\ R' & (-2, 0) \end{aligned}$$

$$\begin{aligned} P'' & (1, 2) \\ Q'' & (1, 0) \\ R'' & (2, 0) \end{aligned}$$

The shaded figure is congruent to the nonshaded figure. Describe two different sequences of transformations in which the nonshaded figure is the image of the shaded figure.



- ① Rotate  $90^\circ$  counter clockwise. Then translate down 1.
- ② Rotate  $270^\circ$  clockwise. Then translate down 1.



- ① Rotate  $90^\circ$  counter clockwise. Then translate down 2 and right 2.
- ② Rotate  $270^\circ$  clockwise. Then down 2 and right 2.