M7H

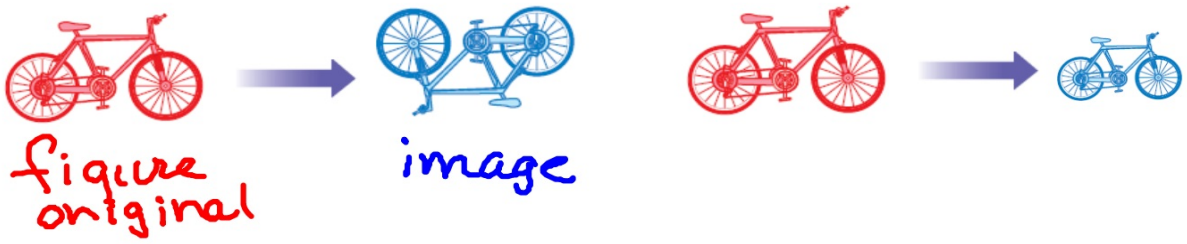
March 5, 2012

Nothing to correct...

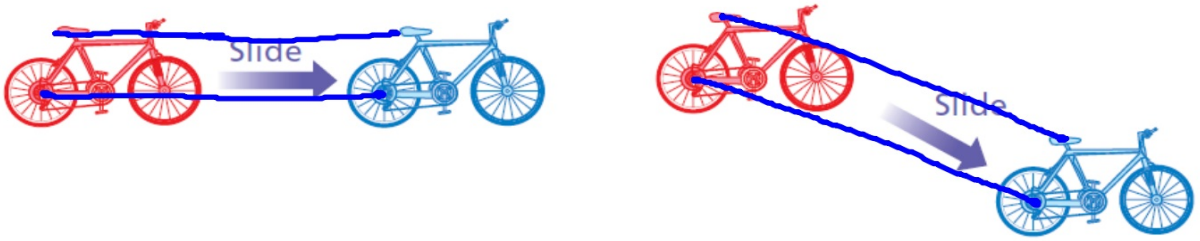
Get out your notes...

3/5 - Translations using coordinates

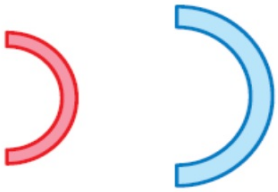
A **transformation** changes a figure into another figure. The new figure is called the **image**.



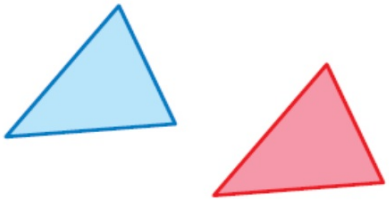
A **translation** is a transformation in which a figure *slides* but does not turn. Every point of the figure moves the same distance and in the same direction.



Tell whether the blue figure is a translation of the red figure. Explain.

1. 

No

2. 

Yes

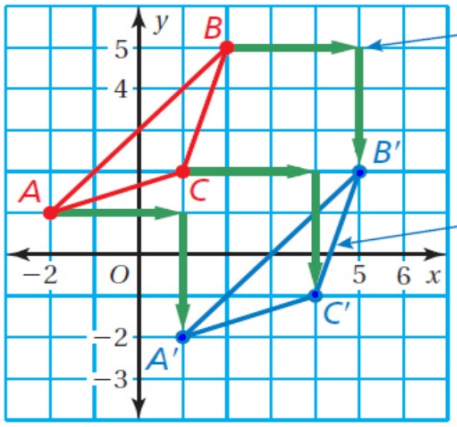
3. 5
5

Yes

4. 

No

Translate the red triangle 3 units right and 3 units down. What are the coordinates of the image?



Move each vertex 3 units right and 3 units down.

Connect the vertices. Label as A', B', and C'.

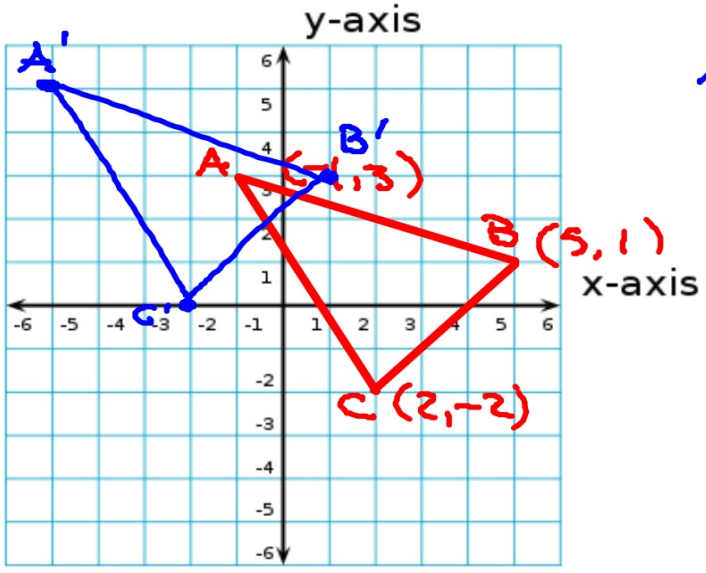
A' is read "A prime." Use *prime* symbols when naming an image.

$A \rightarrow A'$

$B \rightarrow B'$

$C \rightarrow C'$

The red triangle is translated 4 units left and 2 units up.
What are the coordinates of the image?

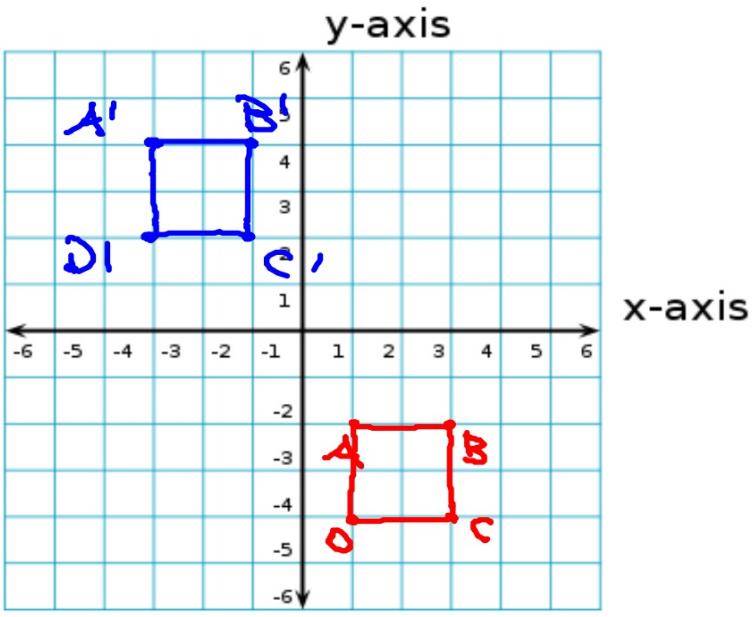


A' (-5,5)

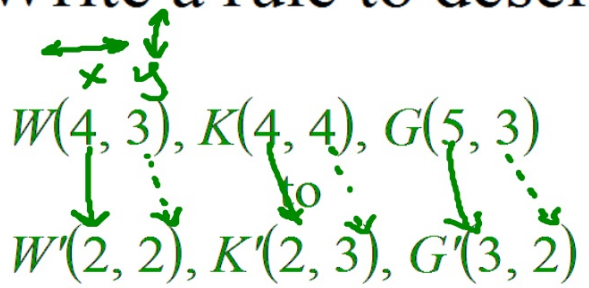
B' (1,3)

C' (-2,0)

The vertices of a square are $A(1, -2)$, $B(3, -2)$, $C(3, -4)$, and $D(1, -4)$. Draw the figure and its image after a translation 4 units left and 6 units up.



Write a rule to describe each transformation.



left 2, down 1

$N(2, 3), U(2, 5), P(4, 5), H(4, 3)$
to
$N'(0, 2), U'(0, 4), P'(2, 4), H'(2, 2)$

left 2
down 1

Find the coordinates of the vertices of each figure after the given transformation.

translation: 1 unit left and 7 units down

$X(0, 2), N(5, 4), E(5, 2)$

X'(-1,-5) N'(4,-3) E'(4,-5)

translation: 2 units right and 1 unit down

$E(-1, -4), K(-2, -2), P(-1, -1), X(3, -3)$

E'(1,-5), K'(0,-3), P'(1,-2) X(5,-4)

Homework

Pink Similarity WS2

Due Tuesday

Tessellations due 3/16