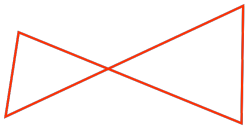
Name _____
Date _____ Period _____

Translations

all points of a figure are moved the same distance in the same direction without rotation or reflection.



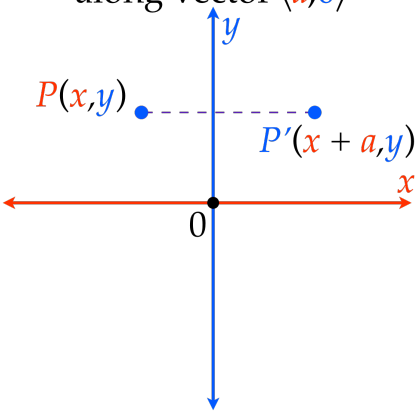
NOTE: the original image is congruent to the translated image.

Translations

within the coordinate plane

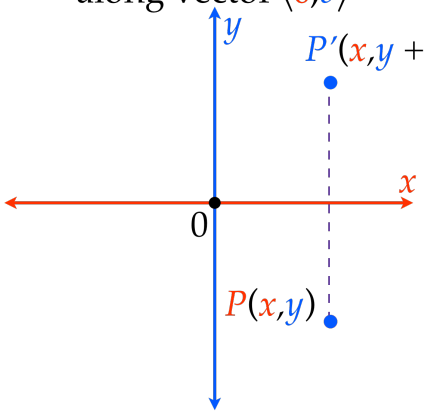
Horizontal Translation

along vector $\langle a,0 \rangle$



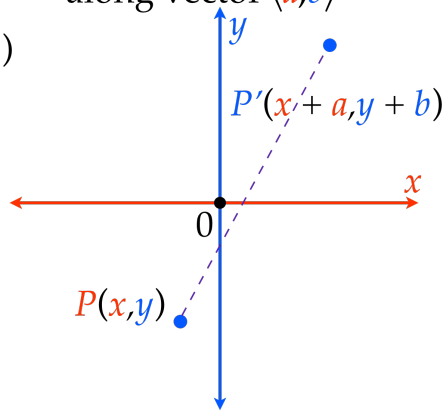
Vertical Translation

along vector $\langle 0,b \rangle$



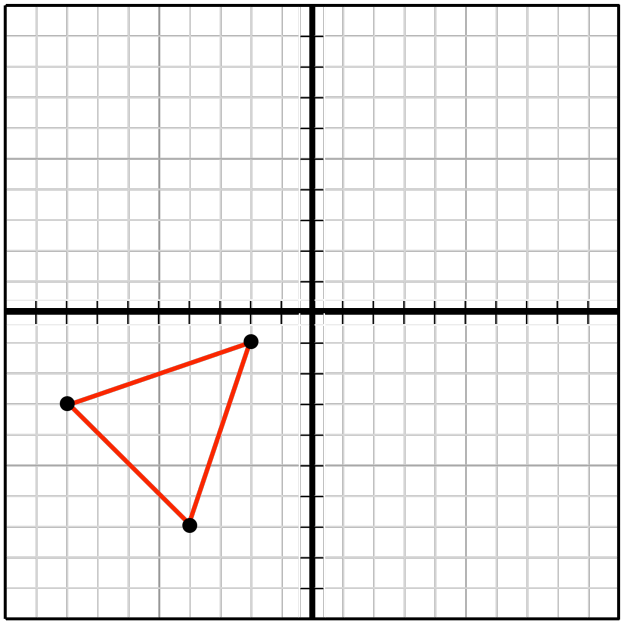
General Translation

along vector $\langle a,b \rangle$



Translate the following figure...

two units to the right



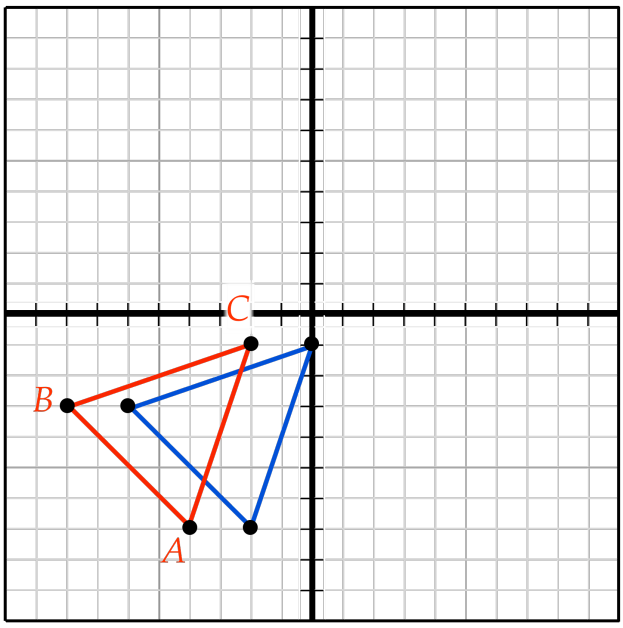
Translate the following figure...

two units to the right

$A(-4,-7) \rightarrow \langle 2,0 \rangle$

$B(-8,-3) \rightarrow \langle 2,0 \rangle$

$C(-2,-1) \rightarrow \langle 2,0 \rangle$



Translate the following figure...

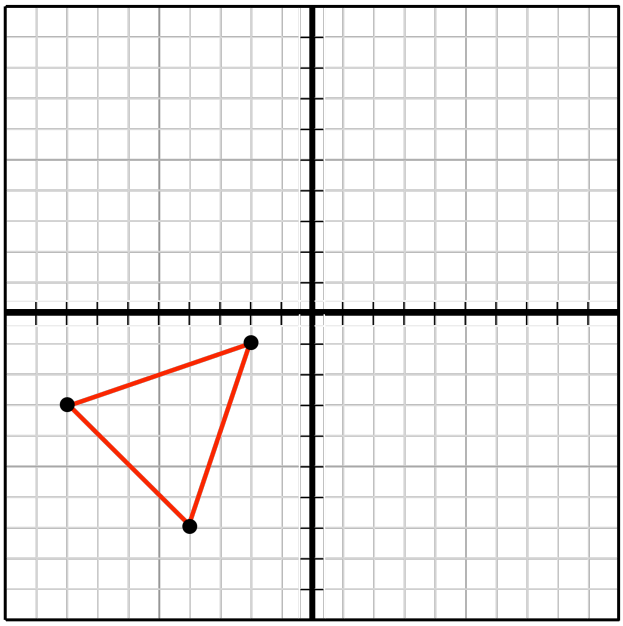
two units to the right

$A(-4,-7) \rightarrow \langle 2,0 \rangle = A'(-2,7)$

$B(-8,-3) \rightarrow \langle 2,0 \rangle = B'(-6,-3)$

$C(-2,-1) \rightarrow \langle 2,0 \rangle = C'(0,-1)$

five units to the up



Translate the following figure...

two units to the right

$A(-4,-7) \rightarrow \langle 2,0 \rangle = A'(-2,7)$

$B(-8,-3) \rightarrow \langle 2,0 \rangle = B'(-6,-3)$

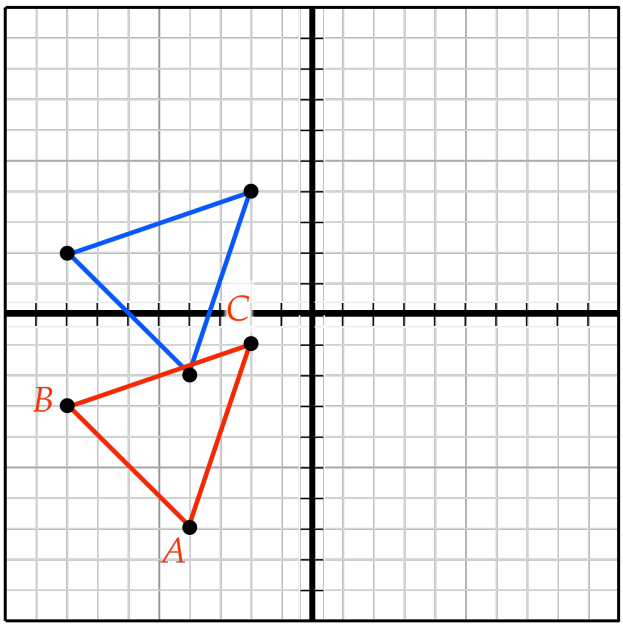
$C(-2,-1) \rightarrow \langle 2,0 \rangle = C'(0,-1)$

five units to the up

$A(-4,-7) \rightarrow \langle 0,5 \rangle$

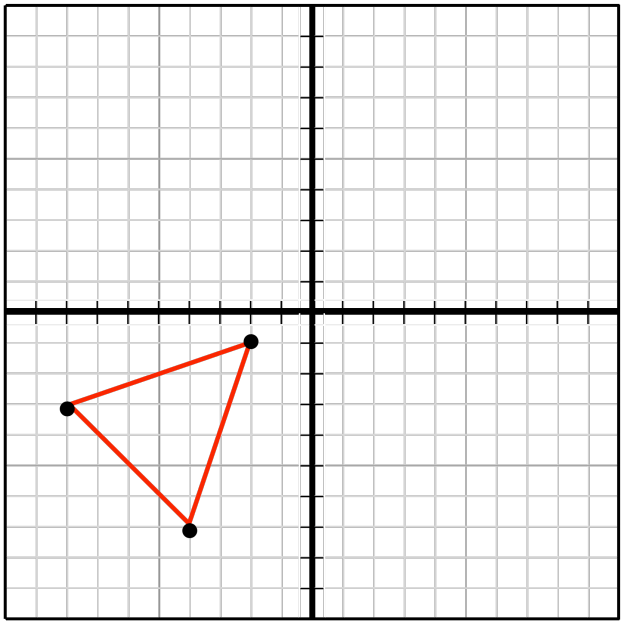
$B(-8,-3) \rightarrow \langle 0,5 \rangle$

$C(-2,-1) \rightarrow \langle 0,5 \rangle$



Translate the following figure...

six units to the right and four units up



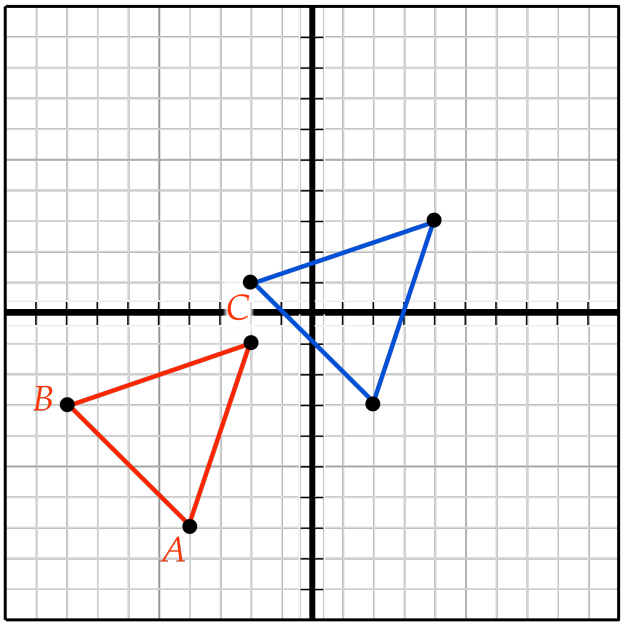
Translate the following figure...

six units to the right and four units up

$A(-4,-7) \rightarrow \langle 6,4 \rangle$

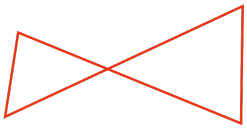
$B(-8,-3) \rightarrow \langle 6,4 \rangle$

$C(-2,-1) \rightarrow \langle 6,4 \rangle$



Translations

all points of a figure are moved the same distance in the same direction without rotation or reflection.



Horizontal Translation

$$P(x,y) \rightarrow \langle a,0 \rangle = P'(x + a, y)$$

Vertical Translation

$$P(x,y) \rightarrow \langle 0,b \rangle = P'(x, y + b)$$

General Translation

$$P(x,y) \rightarrow \langle a,b \rangle = P'(x + a, y + b)$$