

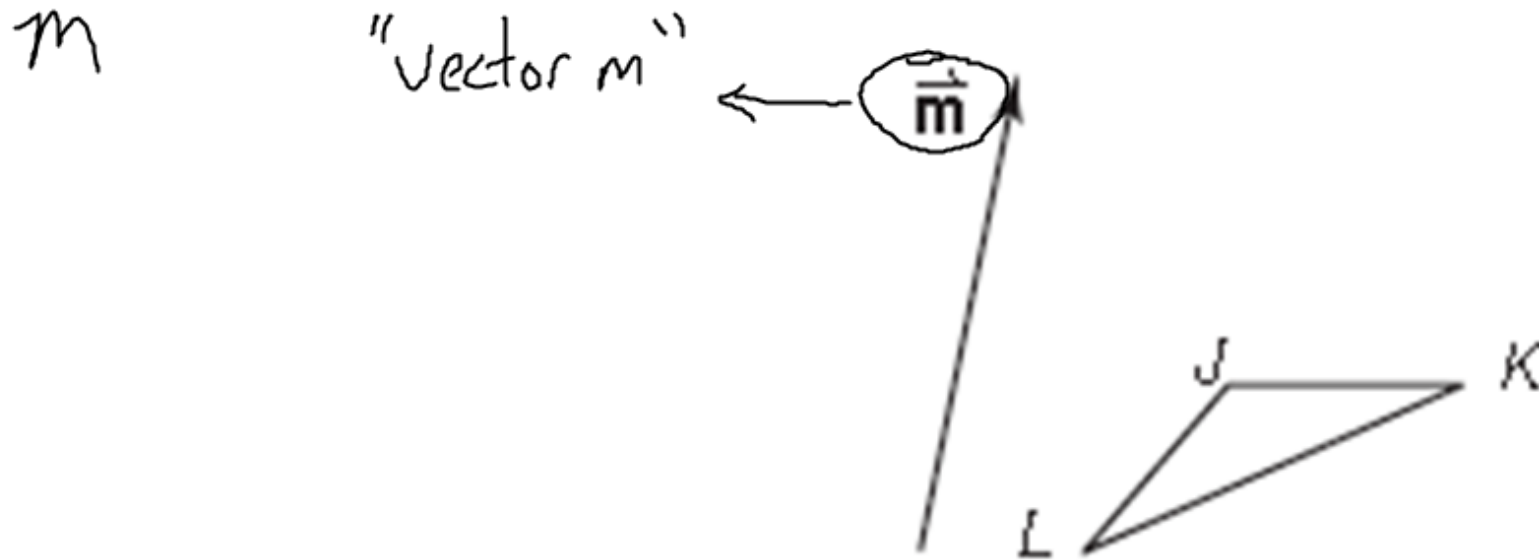
**Students will draw
translations in the coordinate
plane**

*Vector video

Translation: a transformation that Slides
a figure

Translate along
a vector:

Vector \rightarrow direction
and magnitude



Translate in the coordinate plane:

vector $\langle 2, -3 \rangle$

words: add vector amounts to the "x" & "y"

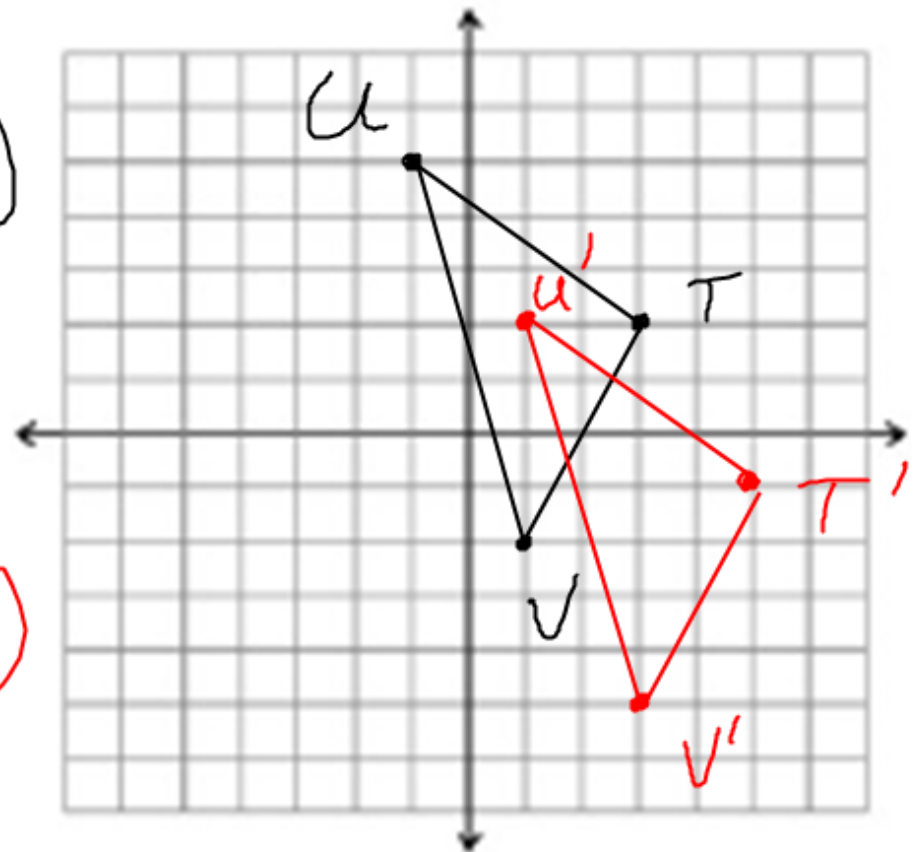
symbols: $\langle a, b \rangle$
 $(x, y) \rightarrow (x+a, y+b)$

$T(3, 2) \rightarrow T'(5, -1)$

$U(-1, 5) \rightarrow U'(1, 2)$

$V(1, -2) \rightarrow V'(3, -5)$

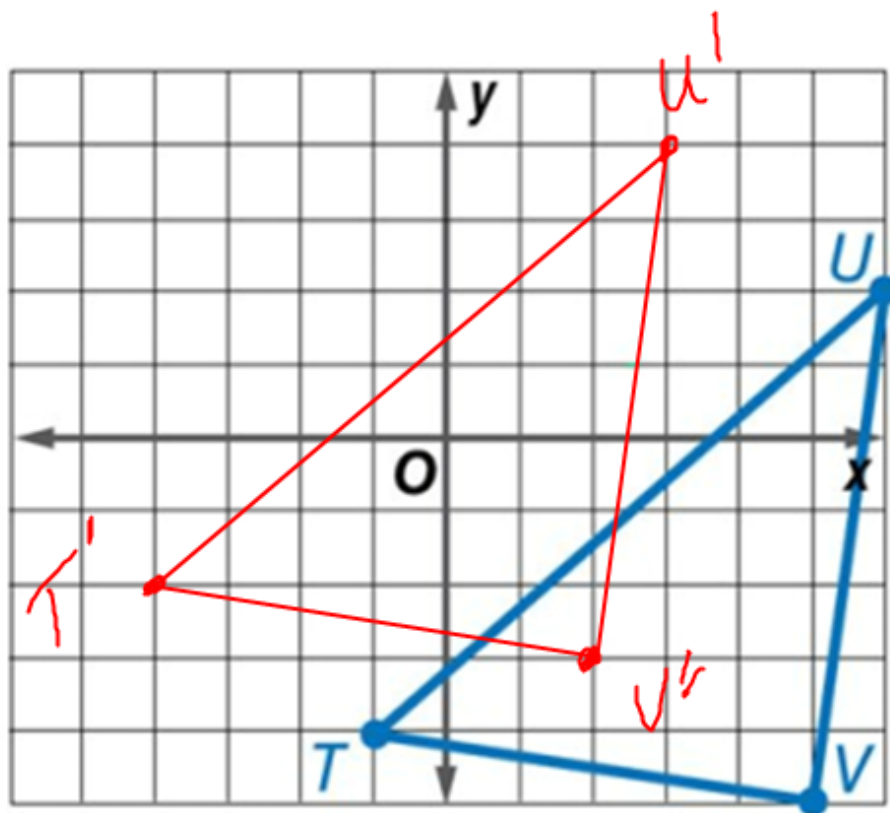
Along $\langle 2, -3 \rangle$



EXAMPLE 2**Translations in the Coordinate Plane**

A. Graph $\triangle TUV$ with vertices $T(-1, -4)$, $U(6, 2)$, and $V(5, -5)$ along the vector $\langle -3, 2 \rangle$.

$$\begin{aligned} T' &(-4, -2) \\ U' &(3, 4) \\ V' &(2, -3) \end{aligned}$$



EXAMPLE 2**Translations in the Coordinate Plane**

B. Graph pentagon $PENTA$ with vertices $P(1, 0)$, $E(2, 2)$, $N(4, 1)$, $T(4, -1)$, and $A(2, -2)$ along the vector $\langle -5, -1 \rangle$. \leftarrow add to each ordered pair

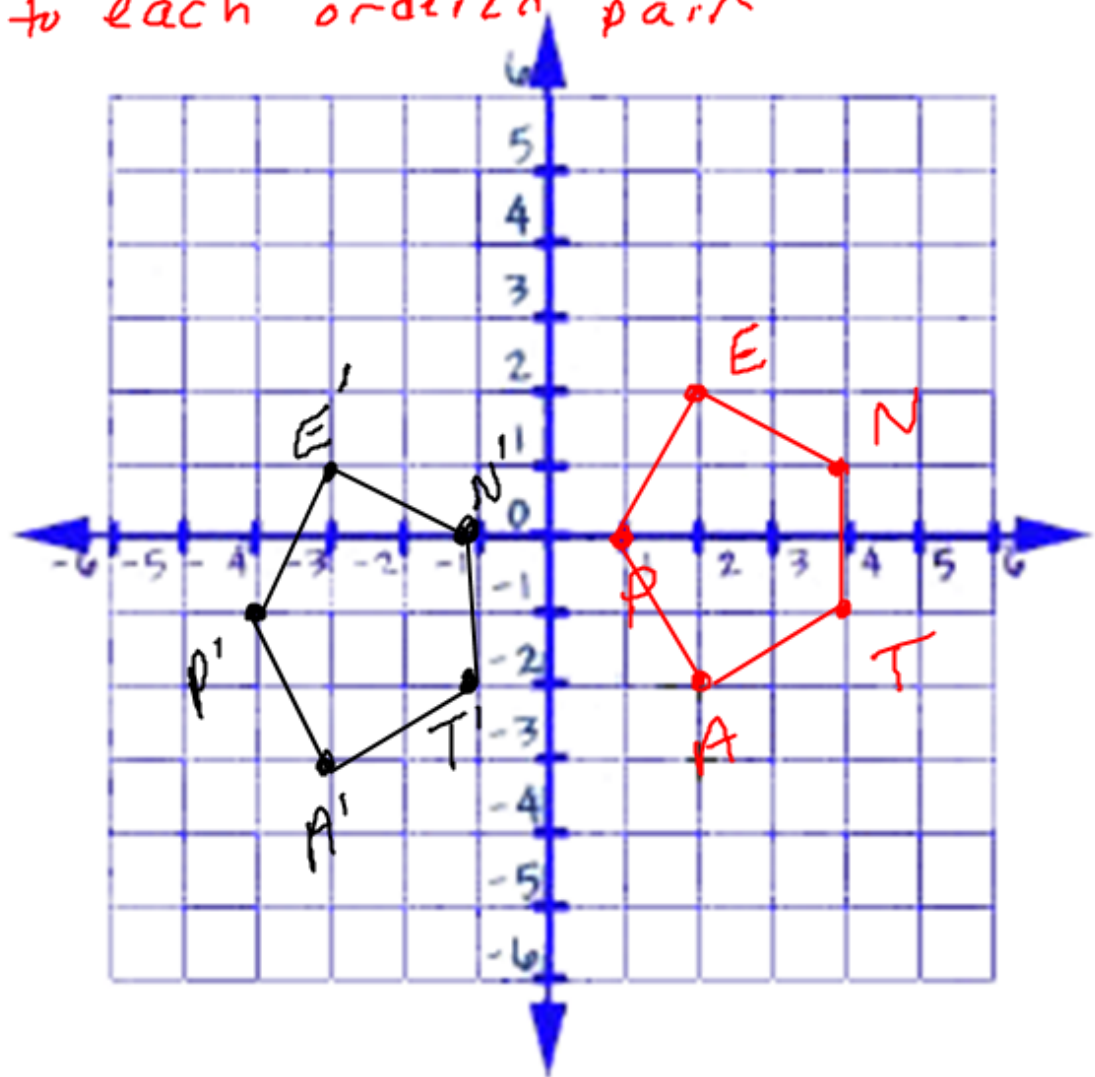
$$P'(-4, -1)$$

$$E'(-3, 1)$$

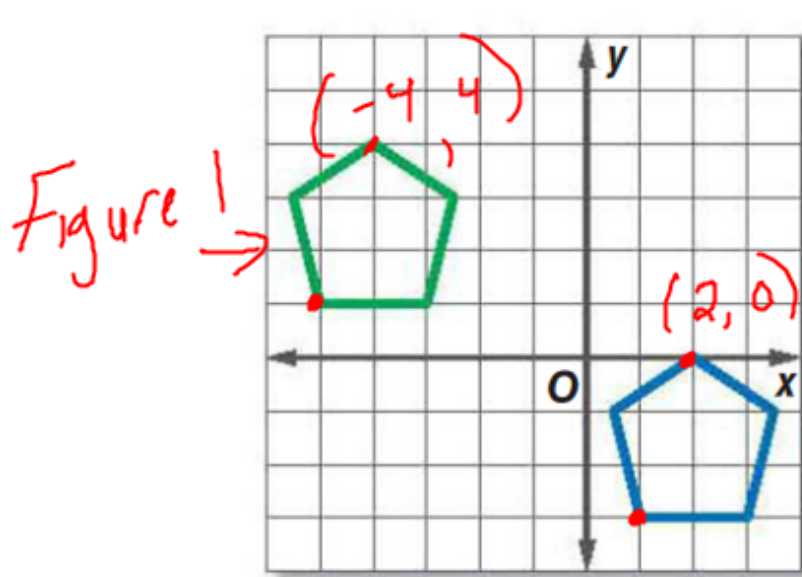
$$N'(-1, 0)$$

$$T'(-1, -2)$$

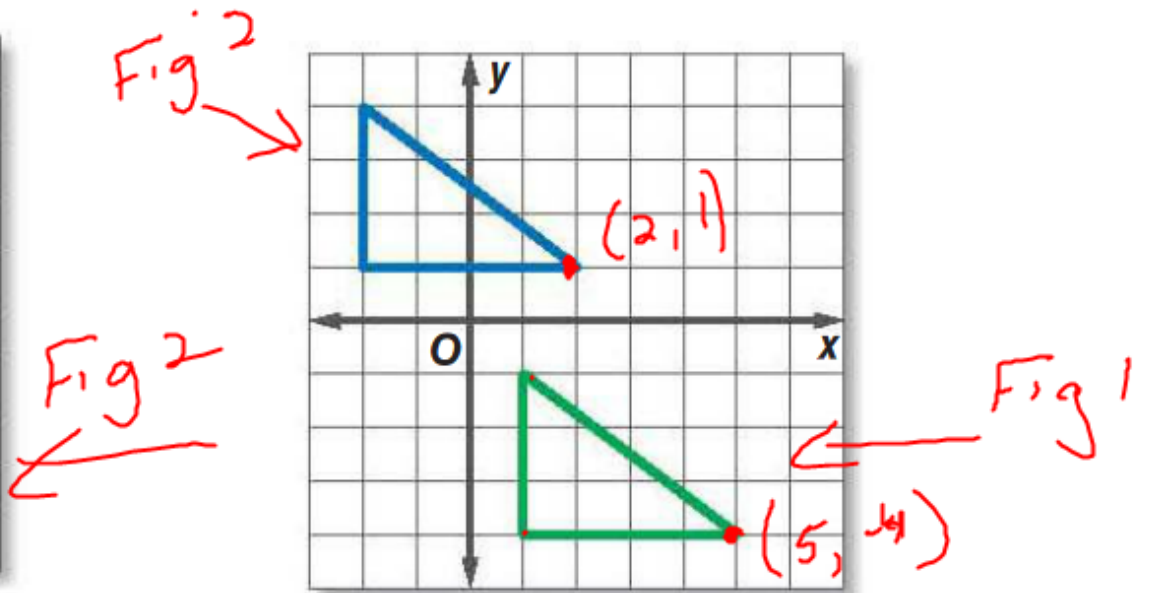
$$A'(-3, -3)$$



Write each translation vector from Figure 1 to Figure 2



$$\langle 6, -4 \rangle$$



$$\langle -3, 5 \rangle$$