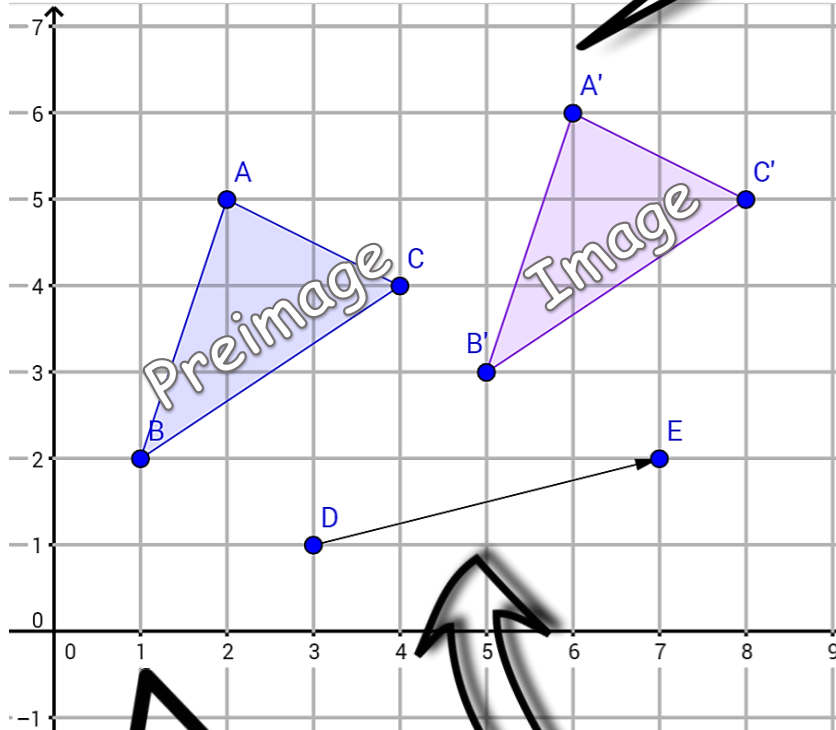
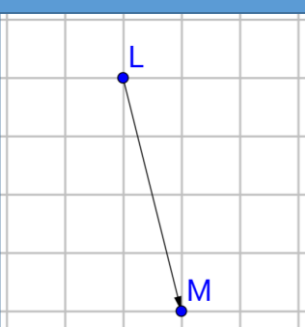
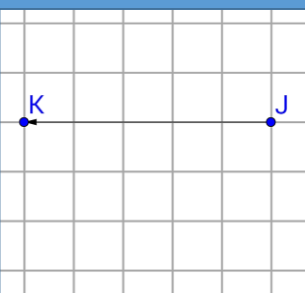
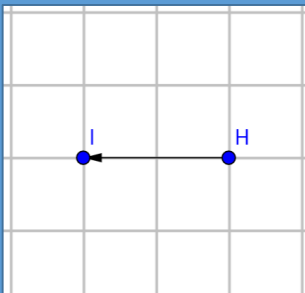
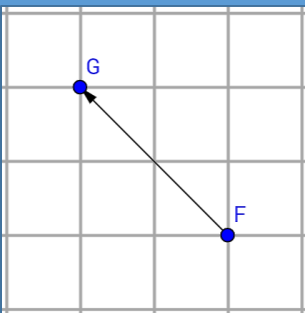


# Translations

A **translation** moves every point of a figure the same distance in the same direction.

A **rule** for this translation is  
 $(x, y) \rightarrow (x + 4, y + 1)$

Name the vector and write its component form.



## Example

The vertices of  $\triangle ABC$  are  $A(0, 3)$ ,  $B(2, 4)$ , and  $C(1, 0)$ . Translate  $\triangle ABC$  using the vector  $\langle -1, -2 \rangle$ .

$A'(\underline{\quad}, \underline{\quad})$   
 $B'(\underline{\quad}, \underline{\quad})$   
 $C'(\underline{\quad}, \underline{\quad})$

$\overrightarrow{DE}$  starts at  $\underline{\quad}$  and goes to  $\underline{\quad}$

$\overrightarrow{DE}$  moves  $\underline{\quad}$  unit(s) right and  $\underline{\quad}$  unit(s) up so its component form is  $\langle 4, 1 \rangle$ .

Write a rule for the translation of  $\triangle ABC$  to  $\triangle A'B'C'$ .

Graph quadrilateral ABCD with vertices  $A(1, -2)$ ,  $B(2, 1)$ ,  $C(4, 1)$ , and  $D(4, -2)$  and its image after the translation  $(x, y) \rightarrow (x - 1, y + 4)$ .

