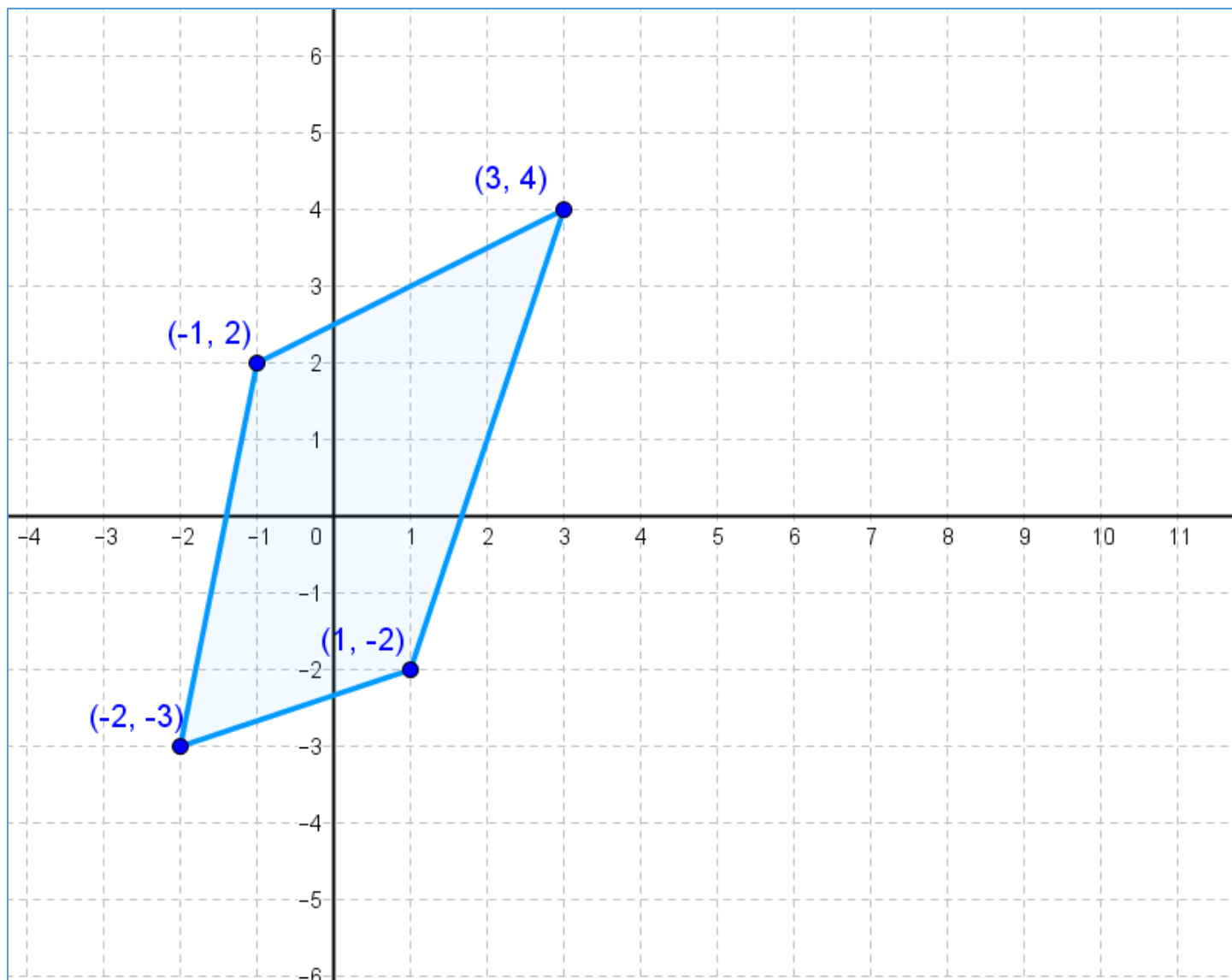




Activity - Meaning of a Vector

Translate and label each point of the polygon in the direction: **2 units horizontally and -3 units vertically**.



State the vector (call it \vec{v}) defined by the above translation.

$$\vec{v} = \begin{bmatrix} \\ \end{bmatrix}$$

Does changing the initial point of \vec{v} change the vector?

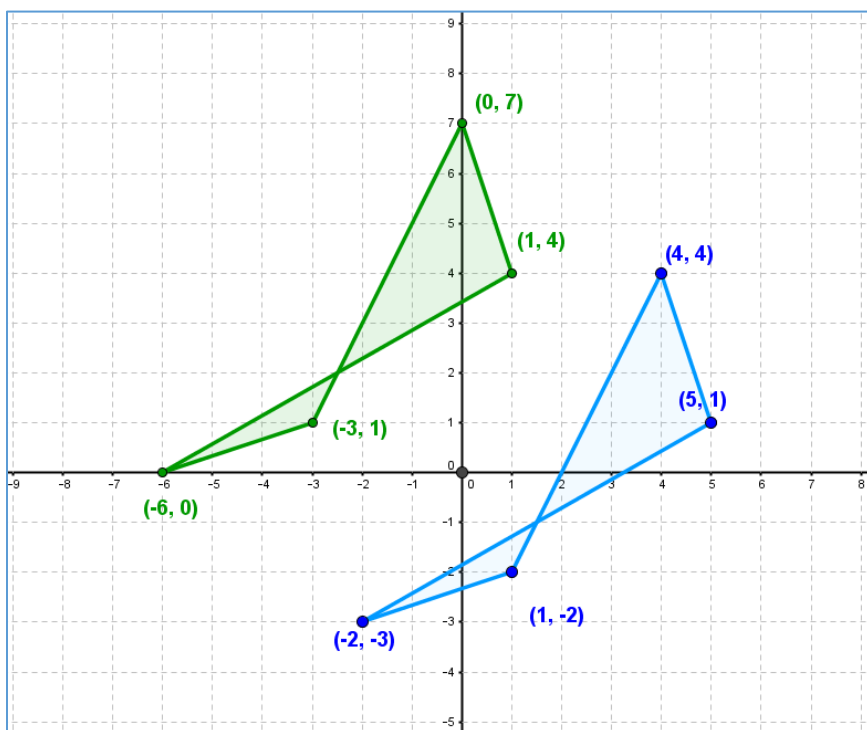
Find the length of this vector.

State its direction.



To understand what a vector is, play with the *Applet – Meaning of a Vector*

Then test your understanding by doing the following activities. (Use the applet to check your work.)



1. Draw on the above figure the vector \vec{v} that defines the translation of the blue shape to the green shape.

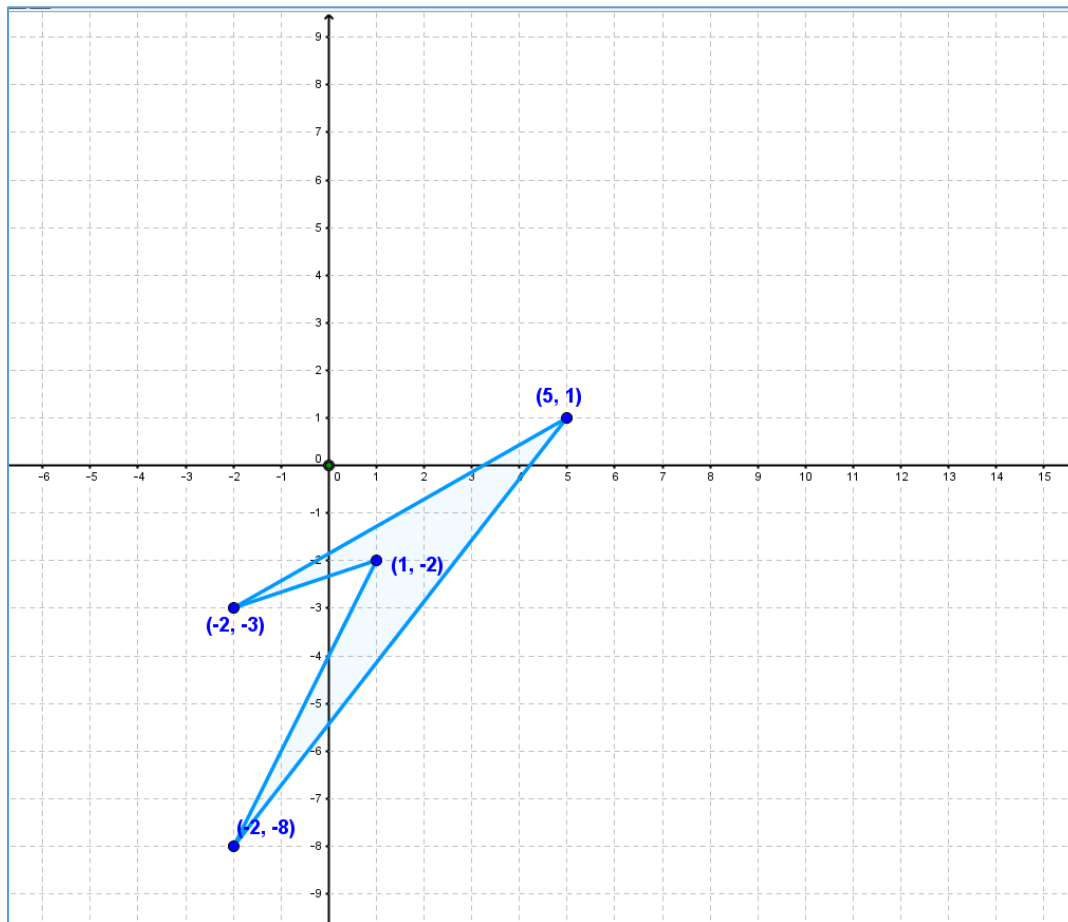
Write the algebraic description of the vector

$$\vec{v} = \begin{bmatrix} \\ \end{bmatrix}$$

Show and explain why your answer is correct.



2. Using the vector $\vec{u} = \begin{bmatrix} 3 \\ 6 \end{bmatrix}$, draw the vector translation of the given shape.



Explain why your answer is correct.

Show algebraically that your answer is correct.