Question:

If the points $\mathbf{A}(6,1)$, $\mathbf{B}(8,2)$, $\mathbf{C}(9,4)$, $\mathbf{D}(p,3)$ are the vertices of a parellelogram, taken in order, find the value of p.

Solution:

If ABCD is a parellelogram with AB||CD,

$$\mathbf{B-A=C-D}$$

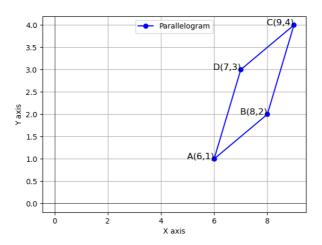
$$\binom{8}{2} - \binom{6}{1} = \binom{9}{4} - \binom{p}{3}$$

$$\binom{2}{1} = \binom{9-p}{1}$$

$$9-p=2$$

$$p=7$$

$$(0.1)$$



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