

Example #1 p. 2 Ch. 9

Find the magnitude and direction of

$$\mathbf{u} = \langle -5, 4 \rangle$$

- First find the magnitude $c^2 = a^2 + b^2$

Step 1: a is the 1st term in the position vector

$$a = -5 \text{ \& } a^2 = 25$$

Step 2: b is the 2nd term in the position vector

$$b = 4 \text{ \& } b^2 = 16$$

So, $c = \sqrt{c^2} = \sqrt{a^2 + b^2}$

$$c = \sqrt{25 + 16} = \sqrt{41}$$

*Remember that distances are always positive so we only use the **positive** root*

