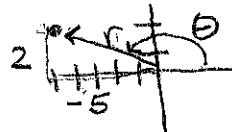


## Warmup #9: Trig Form



1. Write in trig form:  $\vec{k} = -5i + 2j$

$$r(\cos \theta i + \sin \theta j)$$

$$r = \sqrt{(-5)^2 + (2)^2}$$

$$\theta = \tan^{-1}\left(\frac{2}{-5}\right)$$

$$\sqrt{29}(\cos 158.2^\circ i + \sin 158.2^\circ j)$$

$$r = \sqrt{25 + 4}$$

$$\theta = \frac{-21.8}{+180}$$

$$158.20^\circ$$

2. Find the vector  $v$  with  $\|v\| = 7$  and in the same direction as  $u = 4i - 2j$ .

$$\theta = \tan^{-1}\left(-\frac{2}{4}\right)$$

$$\theta = -26.57^\circ$$

$$+360$$

$$\underline{\hspace{1cm}} \\ 333.43^\circ$$

$$r(\cos \theta i + \sin \theta j)$$

$$7(\cos 333.43^\circ i + \sin 333.43^\circ j)$$

$$\boxed{6.26i - 3.13j}$$



makes sense (purple)