

Precalculus Worksheet #2 Chapter 7 Selected Solutions

Given the magnitude and the direction angle of vector v , write the component form of v .

1. $\|v\| = 40$; $\theta = 85^\circ$ $v = \langle 3.49, 39.8 \rangle$

$$v_x = \|v\| \cos \theta \quad v_y = \|v\| \sin \theta$$

$$v_x = 40 \cos 85^\circ \quad v_y = 40 \sin 85^\circ$$

Given the component form of v , find its magnitude and direction angle.

3. $v = \langle 8.2, 3.1 \rangle$ $\|v\| = 8.77$ $\theta = 20.7^\circ$

$$\|v\| = \sqrt{8.2^2 + 3.1^2} \quad \theta = \arctan\left(\frac{3.1}{8.2}\right)$$

$$\|v\| = \sqrt{76.85}$$