

Warmup #6: Dot Product

1. Find the angle between the two vectors given

$\|\vec{a}\| = 3$, $\|\vec{b}\| = 4$, and $\vec{a} \cdot \vec{b} = 7$. Round to the nearest hundredth.

$$\cos \theta = \frac{a \cdot b}{\|a\| \|b\|}$$

$$\cos \theta = \frac{7}{3 \cdot 4}$$

$$\cos \theta = \frac{7}{12}$$

$$\theta = \cos^{-1}\left(\frac{7}{12}\right)$$

$$\theta = 54.31^\circ$$