

P1

Find the angle between AB and CD.

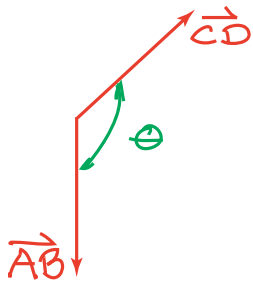
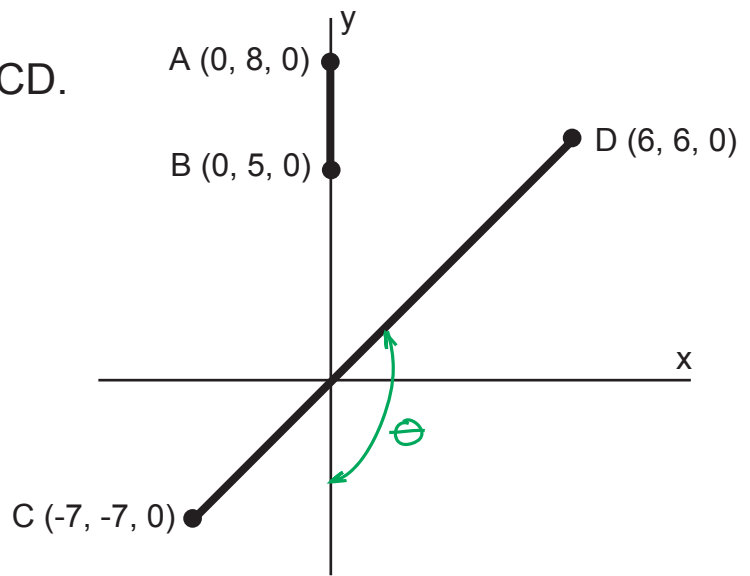
Units: Ft.

$$\vec{AB} = 0\vec{i} - 3\vec{j} + 0\vec{k}$$

$$\vec{CD} = 13\vec{i} + 13\vec{j} + 0\vec{k}$$

$$AB = \sqrt{0^2 + 3^2 + 0^2} = 3$$

$$CD = \sqrt{13^2 + 13^2 + 0^2} = 18.4$$



$$\theta = \cos^{-1} \left(\frac{0(13) + (-3)(13) + 0(0)}{3(18.4)} \right)$$

$$\theta = 135^\circ$$