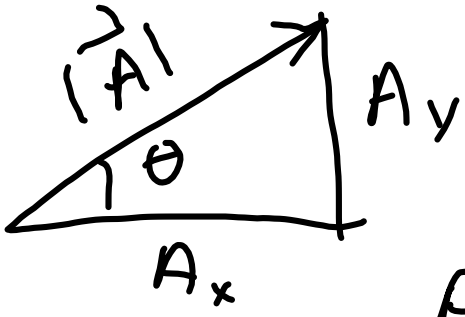
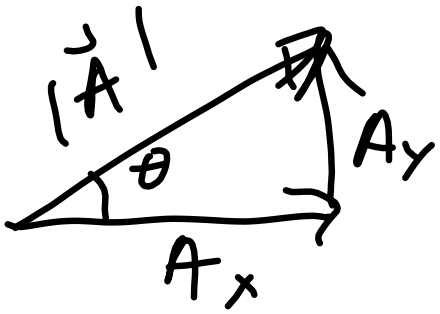


$$\cos(\theta) = \frac{A_x}{|\vec{A}|}$$

$$A_x = |\vec{A}|\cos(\theta)$$

$$A_y = |\vec{A}|\sin(\theta)$$

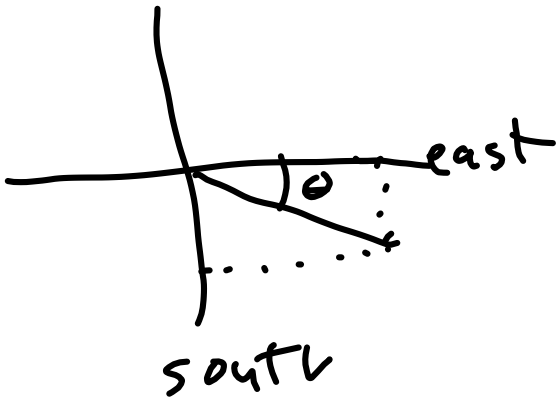
Aug 31-9:30 AM



$$|\vec{A}| = \sqrt{A_x^2 + A_y^2}$$

$$\theta = \tan^{-1}\left(\frac{A_y}{A_x}\right)$$

Aug 31-9:38 AM



Aug 31-9:39 AM

Scalar Product (Dot product)

$\vec{A} \cdot \vec{B}$

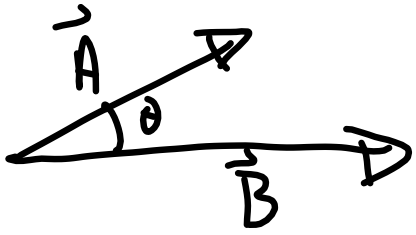
Vector Product (cross product)

$\vec{A} \times \vec{B}$

Aug 31-9:41 AM

2 ways to do dot product

1) $\vec{A} \cdot \vec{B} = |\vec{A}||\vec{B}| \cos\theta$



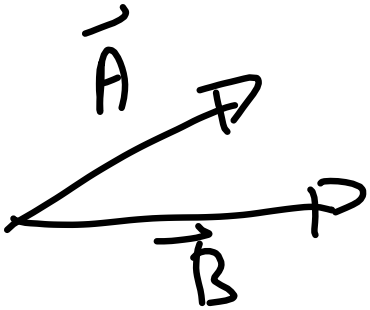
2) $\vec{A} \cdot \vec{B} = A_x B_x + A_y B_y$

Aug 31-9:43 AM

Cross Product

1) $\vec{A} \times \vec{B} = \vec{C}$,

where $|\vec{C}| = |\vec{A}||\vec{B}| \sin\theta$



direction is perpendicular to plane containing $\vec{A}$ and $\vec{B}$

2) uses components (see book)

Aug 31-9:48 AM