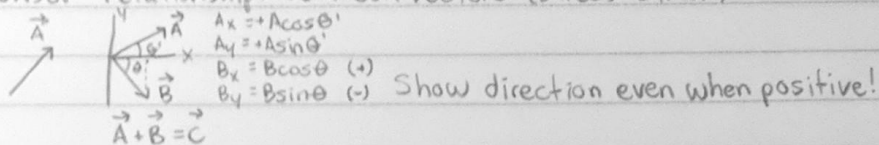


## Types of Numbers

PH III

1. Scalar - magnitude
2. Vector - magnitude and direction
3. Tensor - relationships between vectors (stress-strain)



$$C_x = A_x + B_x \quad C_y = A_y + B_y \quad \vec{C} = \sqrt{C_x^2 + C_y^2} \quad \theta = \tan^{-1}\left(\frac{C_y}{C_x}\right) \quad \text{*Units!}$$

## Unit Vector Notation

$\hat{i}$  represents x-direction

$\hat{j}$  represents y-direction

$\hat{k}$  represents z-direction

$$\vec{B} = B_x \hat{i} + B_y \hat{j}$$

$$\vec{A} = A_x \hat{i} + A_y \hat{j}$$