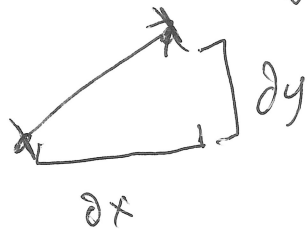


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Jane Notes
6/14/19 ①

Direction + Magnitude



Vector - relative movement

Not absolute position

$$\frac{6i - 8j}{2i + j} = \frac{18 - 32}{-14} = \frac{-14}{10.5}$$

magnitude $|V_1| = \sqrt{4^2 + 3^2}$

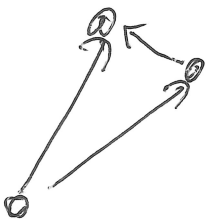
$$V_1 = 4i + 3j$$

i = unit vector in +x dir
 j = " " " +y dir

$$V_1 \cdot V_2 = (4i + 3j) \cdot (2i - j) = 8 - 3 = 5$$

$$V_2 = 3j = 12i + 9j$$

$$-V_1 = -4i - 3j$$



$$V_1 + V_2 = 4i + 3j + 12i + 9j = 16i + 12j$$

$$\cos^{-1}\left(\frac{1}{2}\right) = \frac{\pi}{3} \rightarrow 60^\circ$$

Math, a cos $\left(\frac{\text{dot}}{|V_1||V_2|}\right)$

$$V_1 \cdot V_2 = |V_1||V_2|\cos\theta$$

$$\cos\theta = \frac{V_1 \cdot V_2}{|V_1||V_2|}$$

3 pts Cartesian Coordinates

n - # triangles

$\begin{cases} x_1 & y_1 \\ x_2 & y_2 \\ x_3 & y_3 \end{cases}$

