

Example

Three charges – Adding Vectors $F_{+7} + F_{-7}$

- Add like components of vectors F_{+7} and F_{-7} :

$$F_x = F_{+7,x} + F_{-7,x} = 6 \times 10^{-3} \text{ N}$$

$$F_y = F_{+7,y} + F_{-7,y} = 0$$

- Final vector F has magnitude and direction

$$F = \sqrt{F_x^2 + F_y^2} = 6 \times 10^{-3} \text{ N}$$

$$\varphi = \tan^{-1} \frac{F_y}{F_x} = 0$$

- Double-check with drawing

