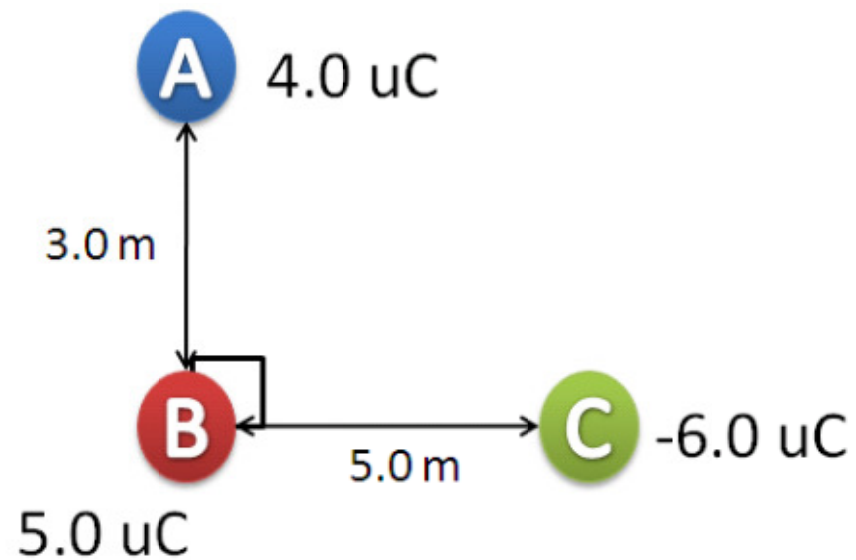
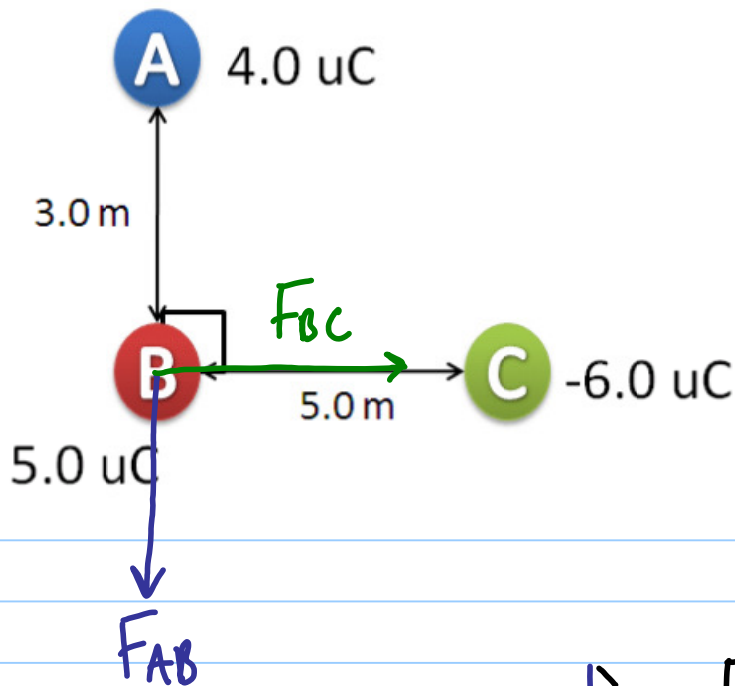


What force is exerted on charge B due to charges A and C?

No

2011



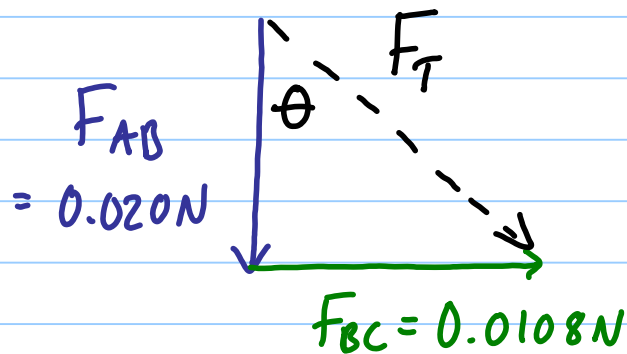


$$F_{AB} = \frac{kq_Aq_B}{r^2} = \frac{(9 \times 10^9)(4.0 \times 10^{-6})(5.0 \times 10^{-6})}{(3.0)^2}$$

$$= 0.020 \text{ N} \checkmark$$

$$F_{BC} = \frac{kq_Aq_B}{r^2} = \frac{(9 \times 10^9)(5.0 \times 10^{-6})(6.0 \times 10^{-6})}{(5.0)^2}$$

$$= 0.0108 \text{ N} \checkmark$$



$$F_T = \sqrt{F_{AB}^2 + F_{BC}^2}$$

$$= \sqrt{0.020^2 + 0.0108^2}$$

$$= 0.023 \text{ N} \checkmark$$

$$\theta = \tan^{-1}\left(\frac{0.0108}{0.020}\right) = 28^\circ \checkmark$$