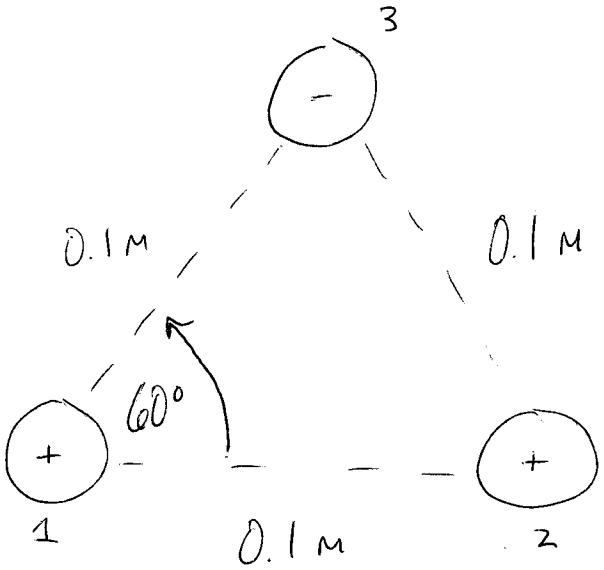


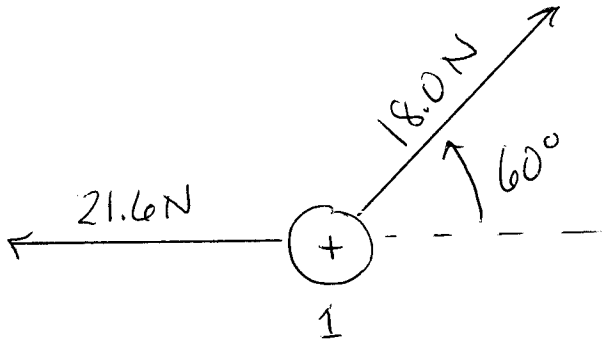
GIVEN: $1 = 4\mu C \quad 2 = 6\mu C \quad 3 = 5\mu C$

ALSO, CALCULATED ON THE WEB NOTES:

$$F_{12} = 21.6N \; ; \; F_{13} = 18.0N$$

STEPS TO SOLVE PROBLEM:

1) SINCE WE ARE LOOKING FOR THE FORCE ON PARTICLE 1 DUE TO 2 AND 3, DRAW A FREE-BODY DIAGRAM FOR PARTICLE 1.



2) Break Each Force Into X and Y Components:

	X	Y
F_{12}	$-21.6\,N$	$0\,N$
F_{13}	$18.0 \cos 60°$	$18.0 \sin 60°$
	$-12.6\,N$	$+15.6\,N$

3) Calculate Resultant Magnitude and Direction:

$$Mag = \sqrt{(-12.6N)^2 + (+15.6N)^2}$$

$$= 20.1N$$

$$\theta = \tan^{-1} Y/X = \tan^{-1}\left(\frac{15.6N}{12.6N}\right)$$

$$\theta = 51.1°$$

Since X_{TOTAL} is Neg. and Y_{TOTAL} is Pos., the Resultant Vector Points in the # II Quadrant at an angle of 51.1° from the Negative X-Axis.

∴ Total Force - 20.1 N @ 128.9°