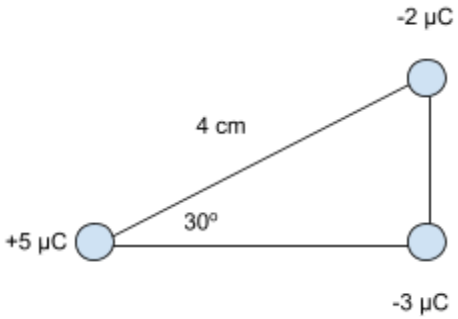
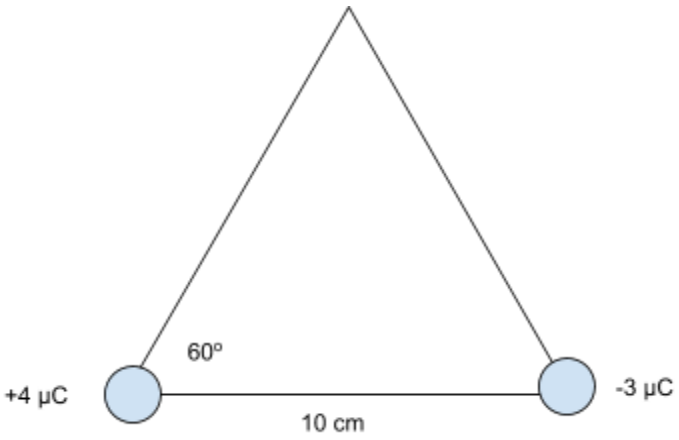
Electrostatics Trig Practice

1. Three point charges of 5 μC, -2 μC, and -3 μC are arranged as shown.



   a. What is the magnitude and direction of the force on the -2 μC charge due to the +5 μC charge?
   b. What is the magnitude and direction of the force on the -2 μC charge due to the -3 μC charge?
   c. What are the x and y components of the force on the -2 μC due to the +5 μC charge?
   d. What are the x and y components of the force on the -2 μC charge due to the -3 μC charge?
   e. What are the x and y components of the resultant force on the -2 μC charge?
   f. What is the magnitude and direction of the resultant force on the -2 μC charge?

2. On an equilateral triangle, a +4 μC charge and a -3 μC charge are placed on two corners as shown.



   a. What is the magnitude and direction of the field at the third corner due to the +4 μC charge?
   b. What is the magnitude and direction of the field at the third corner due to the -3 μC charge?
   c. What are the x and y components of the field at the third corner due to the +4 μC charge?
   d. What are the x and y components of the field at the third corner due to the -3 μC charge?
   e. What are the x and y components of the field at the third corner due to both charges?
   f. What is the magnitude and direction of the field at the third corner due to both charges?