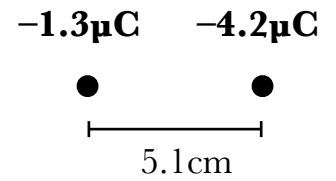


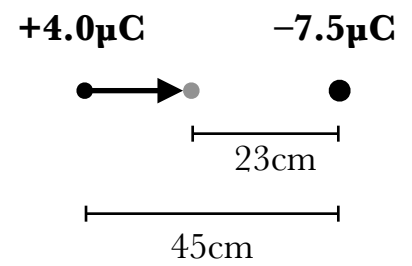
Physics 102 Homework #7

first draft due Wednesday, March 22nd
final draft due Sunday, March 26th

1. These two negative charges are 5.1 cm apart. What is the force on the $-1.3\mu\text{C}$ charge?
Give the magnitude **and the direction** of the force.

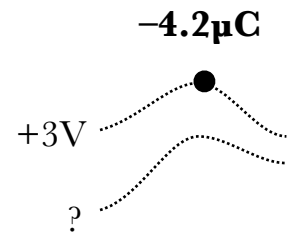


2. A $+4.0\mu\text{C}$ charge starts at a distance of 45cm from a $-7.5\mu\text{C}$ charge. By how much does the potential energy of this system change when the $+4.0\mu\text{C}$ charge moves closer, until this is 23cm away? Include the right sign (positive for an increase, or negative for a decrease).



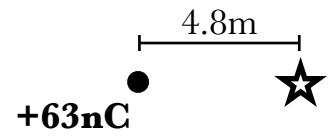
3. A $-4.2\mu\text{C}$ charge sits on a $+3\text{V}$ equipotential line.

a. What is the potential energy of the charge?



b. Suppose the charge is given $+5\mu\text{J}$ of energy as it is pushed onto the second equipotential line. What is the potential of the second equipotential line?

- 4a.** What is the electric potential 4.8m from a +63nC charge?
Assume $V_{\infty} = 0$.



- 4b.** Suppose I had a negative charge, $q = -52\text{nC}$, 2.5m below the target. What is the potential at the star now?

