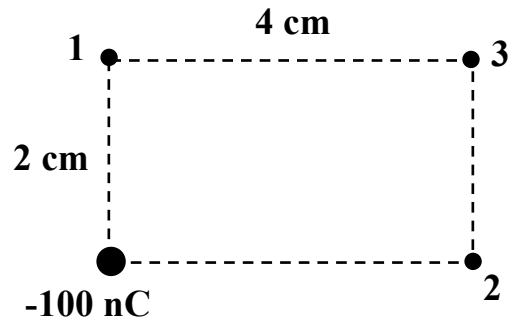
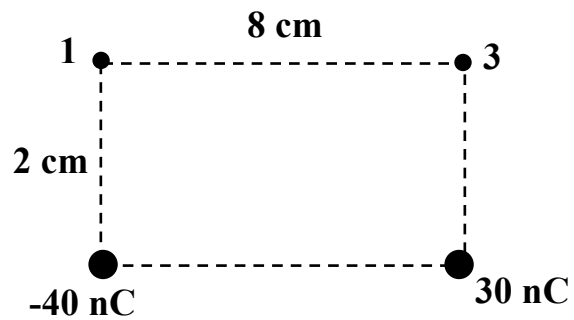


Physics 2212
Homework 2 (due: February 12)

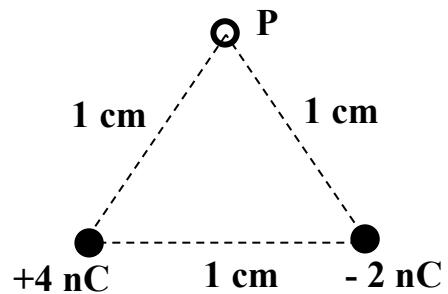
1. What is the magnitude of an electric field at points 1, 2, and 3.



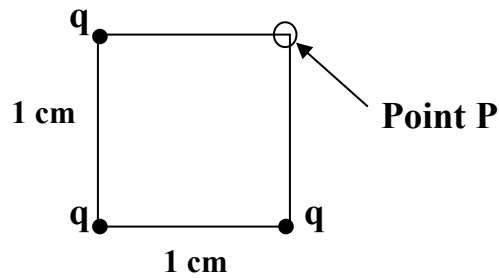
2. What is the magnitude of an electric field at points 1 and 3.



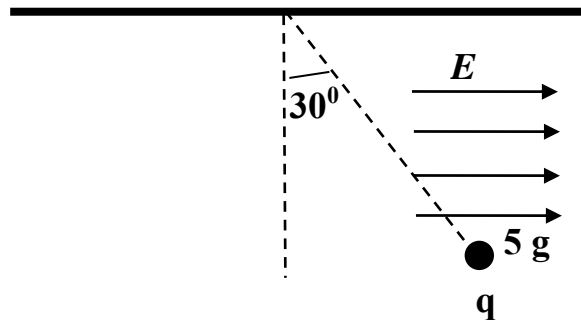
3. What is the magnitude of an electric field at point P?



4. Three particles with charges $q = 10\mu\text{C}$ each are placed at vertices of a square as shown in the Figure. What is the magnitude of an electric field at point P?



5. A uniform electric field $E=50000\text{ N/C}$ causes the 5.0 g ball to hang at a 30° angle. What is the charge on the ball?



6. What is the magnitude of electric field at point P due to a nonconducting infinite planes of negative charge with uniform charge density $\sigma = -20\frac{\mu\text{C}}{\text{m}^2}$ and point charge $Q = -30\mu\text{C}$ placed at point Q. The distance between points P and Q is 0.1 m. Line, connecting points Q and P, is parallel to the planes.

