assignment 1
sf-prob1508.problem

Due date: Fri Jan 16 11:59:59 pm 2026 (EST)

A 5.97E-9C charge is on the x axis at $x = $ -1.41m and a 2.22E-9C charge is on the x axis at $x = 2.18$m. Find the net force exerted on a 3.71E-9C charge located at the origin.

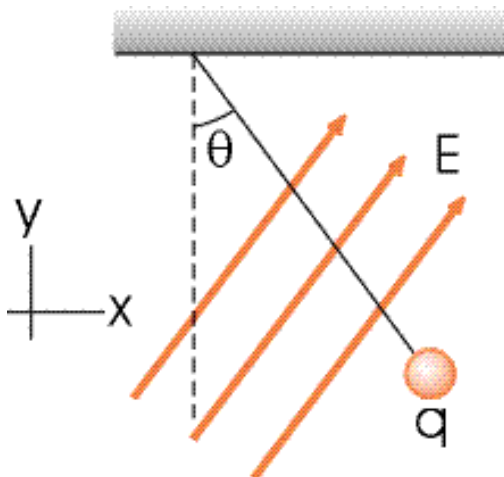**You are correct.** Your receipt no. is 163-5753

sf-prob1514.problem
A charge of 2.40E-9C is placed at the origin, and a charge of 3.76E-9C is placed at $x = 1.57$m. Locate the x coordinate of the point between the two charges at which a charge of 2.86E-9C should be placed so that the net electric force on it is zero.

You are correct. Your receipt no. is 163-3733

sf-prob1560a.problem
A charged cork ball of mass 1.32g is suspended on a light string in the presence of a uniform electric field, as seen in the figure below. When the electric field has an x component of 2.27E+5N/C, and a y component of 5.06E+5N/C, the ball is in equilibrium at $\theta =37.2°$. Calculate the charge on the ball.

You are correct. Your receipt no. is 163-4615

Calculate the tension in the string.

You are correct. Your receipt no. is 163-1212

sb-prob2356.problem
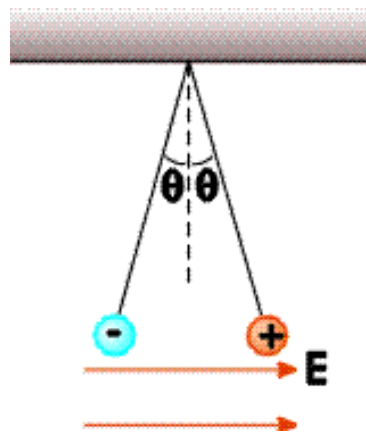6. Three identical small Styrofoam balls ($m = 2.10$g) are suspended from a fixed point by three nonconducting threads, each with a length of 45.9cm and with negligible mass. At equilibrium the three balls form an equilateral triangle with sides of 30.6cm. What is the common charge q carried by each ball?

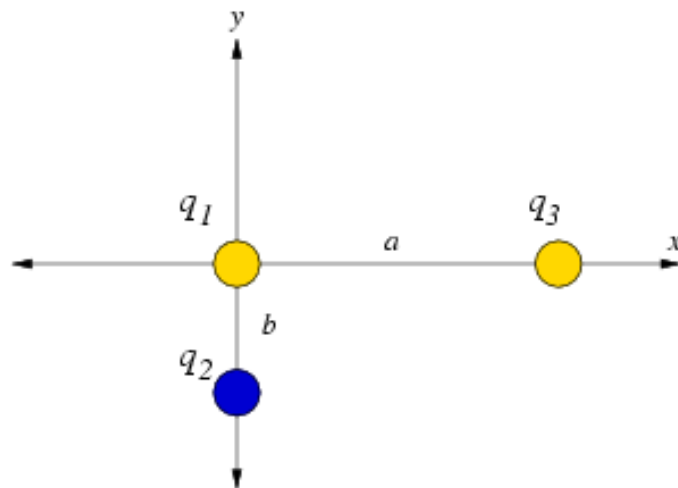**You are correct.** Your receipt no. is 163-618

sb-prob2362.problem

8. Two small spheres, each of mass 2.16g, are suspended by light strings 10.9cm in length (see figure below). A uniform electric field is applied in the x direction. The spheres have charges equal to -5.10E-8C and +5.10E-8C. Determine the electric field that enables the spheres to be in equilibrium at an angle of $\theta = 10.8°$.

You are correct. Your receipt no. is 163-6541

sb-prob2316a.problem
1. Three point charges are arranged as shown. Find the vector electric field that the q_2 and q_3 charges together create at the origin. Take q_1=4.51E-9C, q_2=-3.00E-9C, q_3=6.38E-9C, a=0.367m and b=0.123m.
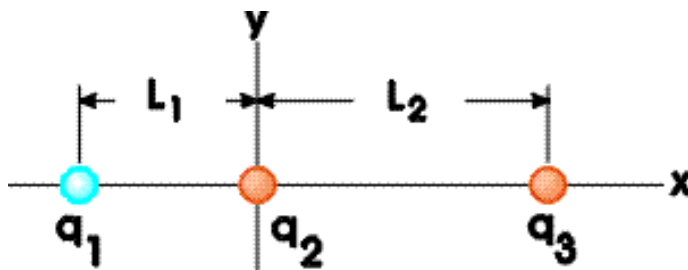

1a. What are the x- and y-components of the electric field?

You are correct. Your receipt no. is 163-9799 1b. Find the vector force on the q_1 charge. What are the x- and y-components of the force?

You are correct. Your receipt no. is 163-7580

sb-prob2350a.problem

Three point charges, $q_1 = $ -4.19nC, $q_2 = $ 5.13nC and $q_3 = $ 2.91nC are aligned along the x axis as shown in the figure below. Assume that $L_1 = 0.481$m and $L_2 = 0.802$m.

Calculate the electric field at the position (2.16m, 0).

[   ]

You are correct. Your receipt no. is 163-2759 Calculate the magnitude of the electric field at the position (0, 2.16m).

[   ]

You are correct. Your receipt no. is 163-9128 Calculate the angle of the electric field with respect to the positive x-axis at this position (0,2.16).

[   ]

You are correct. Your receipt no. is 163-4236

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kn-prob2606a.problem
An electric dipole is formed from two charges $\pm q$, spaced 2.27mm apart. The dipole is at the origin, oriented along the y-axis. The electric field strength at the point (x,y)= (0.00cm, 48.5cm) is 648.0N/C. What is the charge q?

[   ]

You are correct. Your receipt no. is 163-1039 What is the electric field's magnitude at the point (x,y)= (48.5cm, 0.00cm)?

[   ]

You are correct. Your receipt no. is 163-9103

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kn-prob2654a.problem
15a. An electron is launched at a α=66.1&deg angle and speed of 5.90E+6m/s from the positive plate of the parallel plate capacitor shown. If the electron lands d=3.73cm away, what is the electric field strength inside the capacitor?

[   ]

You are correct. Your receipt no. is 163-6650 15b. What is the minimum spacing between the plates?

[   ]

You are correct. Your receipt no. is 163-835