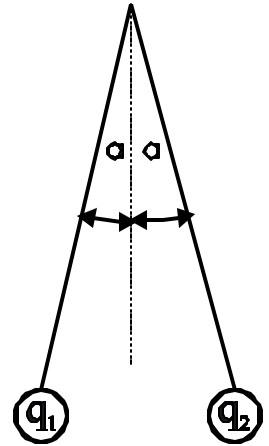


NAME _____
PERIOD _____

QUIZ #34D
ELECTROSTATIC FIELDS

Two pith balls, of negligible radius, are attached to the ends of two silk threads as shown to the right. Each pith ball is attached to the end of a thread 35.0 cm long. A rubber rod is rubbed with fur and is then used to touch one of the pith balls and as a result transfers $0.0220 \mu\text{C}$ of charge to that ball. The first pith ball then touches the second pith ball and as a result the two pith balls repel one another forming an angle of $\alpha = 11.0^\circ$ with the vertical as shown.



1. What is the **magnitude** of the charge q on each pith ball? [3 pts]

2. What is the **net number** of electrons added or subtracted from each pith ball to produce this charge? [3 pts]

3. What is the **magnitude** of the electrostatic repulsive **force** between these two pith balls? [3 pts]

4. What is the **mass** of each pith ball? [3 pts]

5. What is the **distance** between the two pith balls when at equilibrium? [3 pts]