

### Quiz #1: Electric Charge

**Problem 1** (1 point)

A positively charged insulating rod is brought close to an object that is suspended by a string. If the object is attracted toward the rod, we can conclude:

- a) the object is positively charged
- b) the object is negatively charged
- c) the object is an insulator
- d) the object is a conductor
- e) none of the above

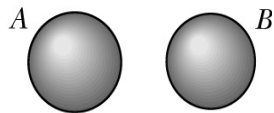
**Problem 2** (1 points)

A positively charged insulating rod is brought close to an object that is suspended by a string. If the object is repelled away from the rod, we can conclude:

- a) the object is positively charged
- b) the object is negatively charged
- c) the object is an insulator
- d) the object is a conductor
- e) none of the above

**Problem 3** (3 points)

The initial charges on two identical metal spheres are  $q_A = +3.00 \mu\text{C}$  and  $q_B = -1.00 \mu\text{C}$ . How many electrons must be transferred from sphere B to sphere A so that they both have the same charge?



**Problem 4** (5 points)

What is the magnitude and direction of the net electric force on the 5.0 nC charge shown in the figure below?

