1) a) When a positively charged rod is brought near a small piece of suspended (neutral) aluminum foil, the rod **attracts** the foil. Explain Why.

b) After a positively charged rod touches a small piece of suspended (neutral) aluminum foil, the rod **attracts** the foil. Explain Why.

2) The charges shown are $q_1 = 5 \mu C$ and $q_2 = -7 \mu C$.

a) Find the magnitude of the force on $q_1$ due to $q_2$ where $k = 8.99 \times 10^9 \text{ Nm}^2/\text{C}^2$.

b) Find the direction of the force on $q_1$ due to $q_2$. Give an angle. Sketch the angle and an arrow representing the force vector on the graph.