1. Draw the individual forces and the total net force on the positive charge at the origin assuming that the magnitude of the charges are the same.

2. An uncharged conducting sphere of radius $R$ is located a distance $d$ away from a point charge $q$.

   The force on the sphere:
   
   (a) can be repulsive
   (b) depends on the magnitude of $d$
   (c) depends on the sign of $q$
   (d) can be 0
   (e) is always attractive
   (f) can be attractive
   (g) is always repulsive

3. Draw the distribution of charges on the large sphere and the direction of the force on the sphere.

4. Now let the conducting sphere be charged with a charge $Q$.

   The force on the sphere:
   
   (a) can be repulsive
   (b) depends on the magnitude of $d$
   (c) depends on the sign of $q$
   (d) can be 0
   (e) is always attractive
   (f) can be attractive
   (g) is always repulsive

5. Use the superposition principle for the uncharged sphere and a charged sphere without polarization to determine the direction of the net force. Use the back of the paper to draw the individual forces and the net force if $q$ and $Q$ are both negative and if $q$ is negative and $Q$ is positive.