

# Sample Quizzes

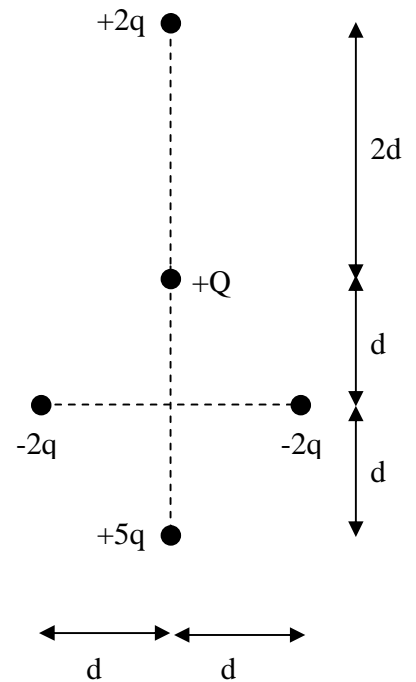
Physics 132

## QUIZ #1

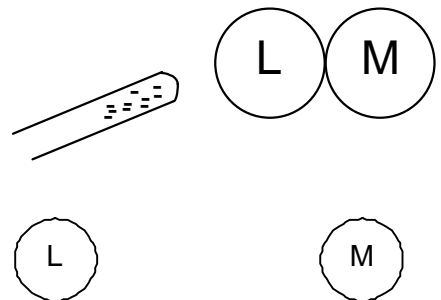
25 points, 18 minutes

SCORE \_\_\_\_\_

- 1) Point charges are positioned as shown in the figure.  
What is the force,  $\mathbf{F}$ , on the  $+Q$  charge due to the other charges?



- 2) Two uncharged metal spheres, L and M, are in contact. A negatively charged plastic rod is brought close to L, but not touching it, as shown.



Next, the two spheres are separated enough that they act like point charges. Then the rod is withdrawn.

Then, L is moved far away and touched to an identical, isolated, uncharged sphere, N, and returned. Finally, M is also touched to N and returned.

- (a) Sketch the charge distribution in the two figures.  
(b) Indicate the direction of the forces acting on L and M in the second figure.  
(c) Let the magnitude of the forces in part (b) be  $F$ . Let the magnitude of the forces at the end of the problem be  $F'$ . What is  $F/F'$ ?