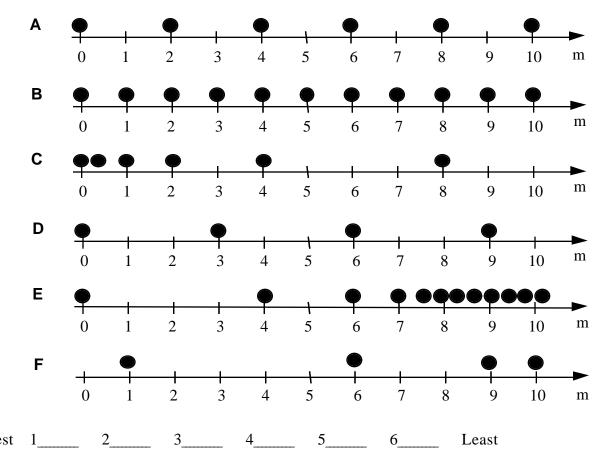
## Motion Diagrams—Displacement 11

Flash strobe photographs were taken every second of a set of spheres moving from left to right. The diagram below shows the location of each sphere when each photograph was taken. The total time intervals shown vary among the spheres. All the displacements are in meters. Rank these spheres on the basis of the greatest displacement over the first 3 seconds. Give the highest rank to the one(s) with the greatest displacement, and give the lowest rank to the one(s) indicating the least displacement. If two motion diagrams indicate the same displacement for the 3-second interval, give them the same rank.



Or, none of these motion diagrams indicate any displacement at all. \_\_\_\_\_\_
Or, the displacement is the same for all of these. \_\_\_\_\_

Please carefully explain your reasoning.

How sure were you of your ranking? (circle one)

Basically Guessed Sure Very Sure

1 2 3 4 5 6 7 8 9 10

Mechanics

<sup>11</sup> K. W. Nicholson, C. Hieggelke, D. Maloney