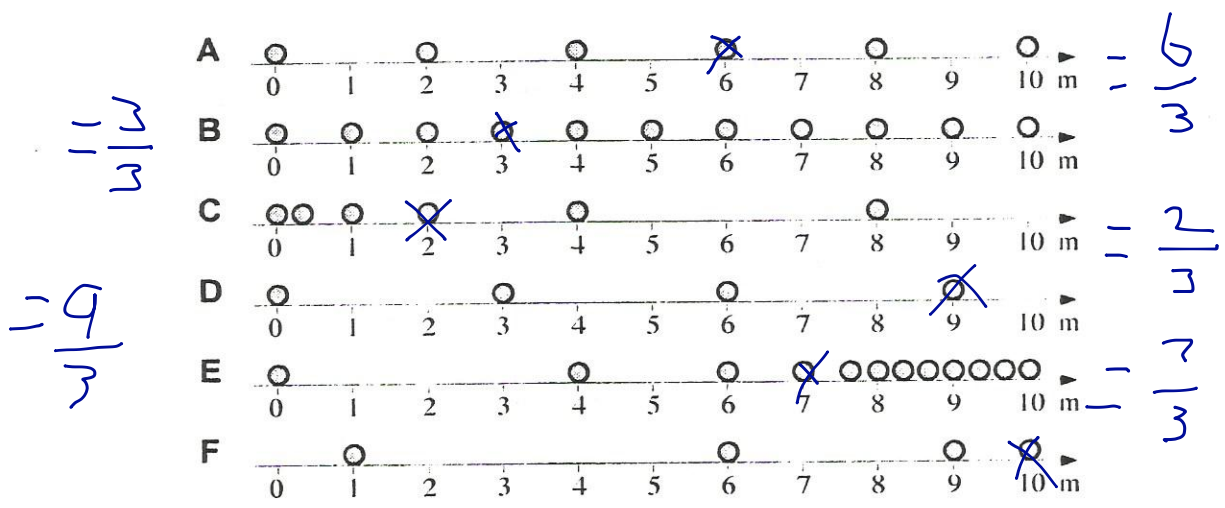


Motion Diagrams—Average Velocity¹²

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 average velocity over the first 3 seconds. Give the highest rank to the one(s) with the greatest average velocity, and give the lowest rank to the one(s) indicating the least average velocity.



Greatest 1 FD 2 E 3 A 4 B 5 C 6 _____ Least

Or, none of these are moving at all. _____

Or, the average velocity is the same for all of these. _____

Please carefully explain your reasoning.

$$v_{av} = \frac{\Delta d}{t}$$

How sure were you of your ranking? (circle one)
 Basically Guessed 1 2 3 4 5 6 7 8 9 10 Very Sure