How is the Physics@Mac Online Physics Competition Different?

A typical physics contest question:

Two masses, m and M, are pushed upward along a frictionless inclined surface with a force $F$ as shown in the figure below. Calculate the minimum force $F$ that prevents $m$ from sliding downward on $M$. $m=1$ kg, $M=9$ kg. Let $g=10$ m/sec$^2$. Answer in Newtons.

![Diagram of two masses on an inclined plane with friction coefficients labeled $\mu_k = 0.25$ and $\mu_s = 0.5$ and an angle of 60 degrees.]

A typical Physics@Mac Online Physics Competition Question:

A hockey puck is shot along a frictionless ice surface towards a net with an initial horizontal velocity $v_0$. At the same time a ball is thrown from the same point with the same initial horizontal velocity $v_0$ towards the net as shown in the figure below. Which crosses the goal line first? Answer a, b, c, or d.

a. the puck  b. the ball  c. they both cross at the same time  d. there is not enough information

![Diagram of a hockey puck and a ball being shot towards a net with their initial velocities shown.]