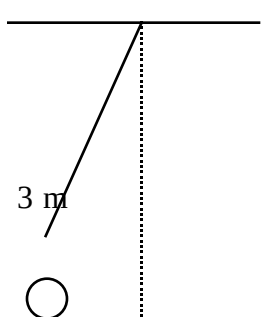
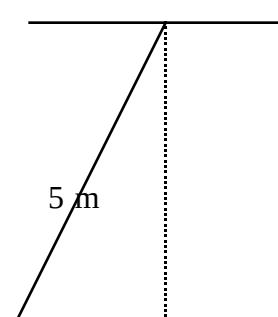
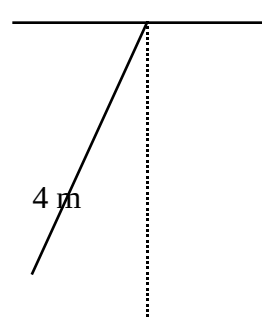
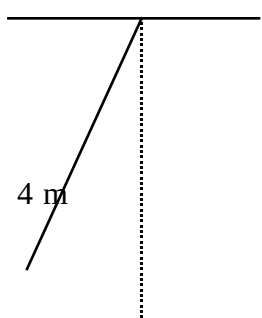
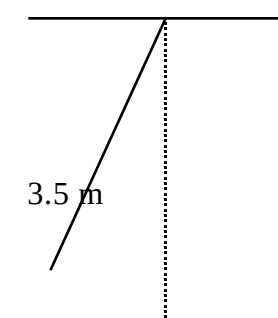
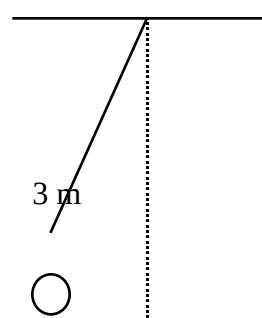


Pendulums—Maximum Speed of the Bob⁷¹

Shown below are six situations where spheres are attached to strings forming pendulums. The pendulums vary in mass and length, but the angles from the vertical are the same for all.

Rank these situations, from greatest to least, on the basis of the maximum speed of the bob at the bottom of the swing. In other words, put first the pendulum whose bob has the greatest speed going through the equilibrium point and put last the pendulum whose bob has the least speed at equilibrium.

A  3 m ○ 0.600 kg	B  5 m ○ 0.400 kg	C  4 m ○ 0.750 kg
D  4 m ○ 0.500 kg	E  3.5 m ○ 0.400 kg	F  3 m ○ 0.750 kg

Greatest 1_____ 2_____ 3_____ 4_____ 5_____ 6_____ Least

Or, the maximum speed is the same for all six 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

⁷¹ C. Hieggelke, D. Maloney, T. O’Kuma