

Physics 141
Quiz 4
Tuesday, Nov. 18, 2008

Name:

2 Problems (turn page over) (Recommended time \leq 20 minutes)

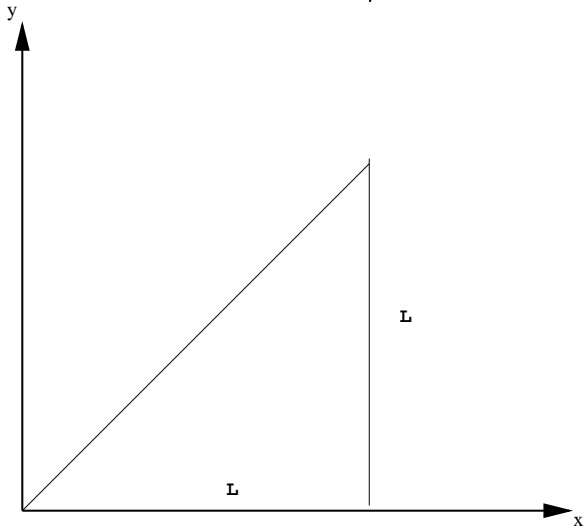
=====

Problem 1: 10 minutes/10 points Barack has gone bowling. He releases the ball tangential to the floor such that it initially slides smoothly along the floor with no rotation. How long is it (N.B.!) after the release that the ball starts to roll without slipping? (Please draw a good picture- including axes and origin- so we know what your sign convention is for the forces and rotation.)

Extra Credit- 2 Points

Draw a graph of the magnitude of the frictional force versus time.

Problem 2: 10 minutes/10 points



Calculate by explicit integration the center-of-mass x and y coordinates of the triangle shown above.