## Group Problem Set 6

## Problem 1



Daffy is depressed because he's standing on one end of a log floating on a lake. Just as he starts walking towards the other end, an anvil appears out of nowhere right above and starts falling. (Could some despicable bunny be responsible?) It hits the log just as he reaches the end. How far away was he from the point of impact? The log has mass M and length L, and Daffy has mass m. The log can be assumed to have uniform density.

What happens if the log is really heavy? What if the log is really light instead?

## Problem 2



Jerry throws a bomb at Tom with an initial speed and angle as given in the figure. As it reaches its apex it explodes into three fragments as shown. We know the masses of all three fragments, the angles of the left two fragments, and the speed of the top fragment. If the fragment on the right has an initial velocity that's horizontal, how much energy will be deposited into Tom's face? Assume that the three fragments add up to the bomb's original mass before it exploded.

Do the bomb fragments have the same kinetic energy as the original bomb just before it exploded? Why?