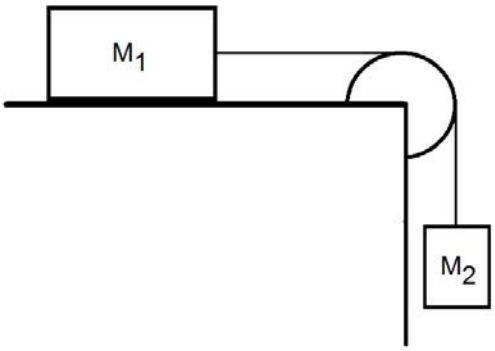
4-5)

Consider a 125 kg mass (M_1) on a frictionless table connected with a horizontal string over a massless, frictionless wheel to a hanging mass of 25 kg (M_2). M_1 has a ball-accelerometer mounted on it (see Problem 4-2, not shown in the figure).



a) How is the angle theta of the accelerometer related to the acceleration of M_1? Review Problem 4-2.
b) Find theta for this case.
c) Suppose you could change the masses to other values. What is the largest angle theta possible? What condition must be met to do this?