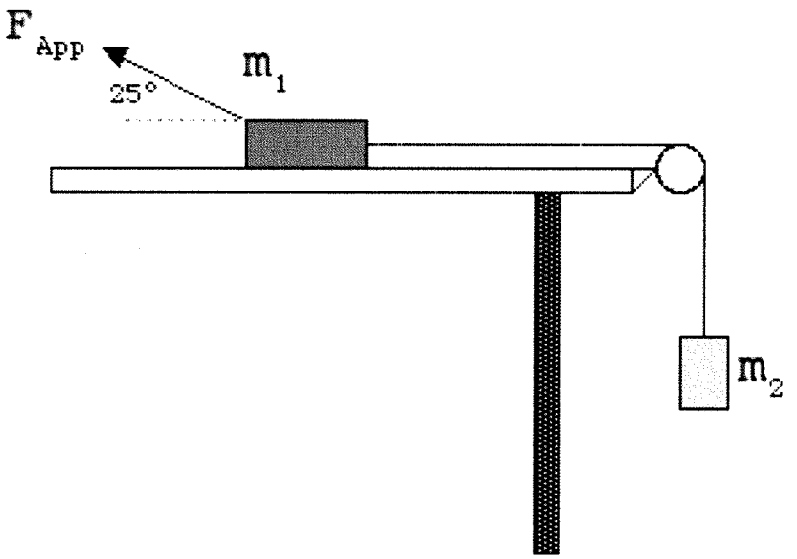
Physics 10154 - Exam #4D

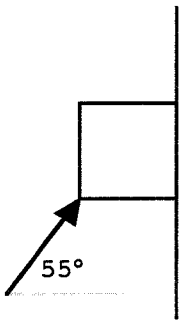
Answer the following two questions. Be sure to clearly indicate your answer with a circle or box. Show all work. If I cannot see how you arrived at an answer, I will deduct points!

1. Two massses (m_1 = 5.0 kg, m_2 = 7.0 kg) are connected by a massless string over a pulley as shown below. An applied force of 44 N acts on m_1 as shown. If m_2 starts from rest 1.0 meters above the ground, how long (in seconds) does it take to hit the ground? No friction.



2. A 12-kg mass is sliding along a vertical wall with a constant velocity of 3.5 meters/sec upwards. An applied force of 180 N acts on the mass as shown.

What is the coefficient of kinetic friction between the block and the wall?



F_{App}