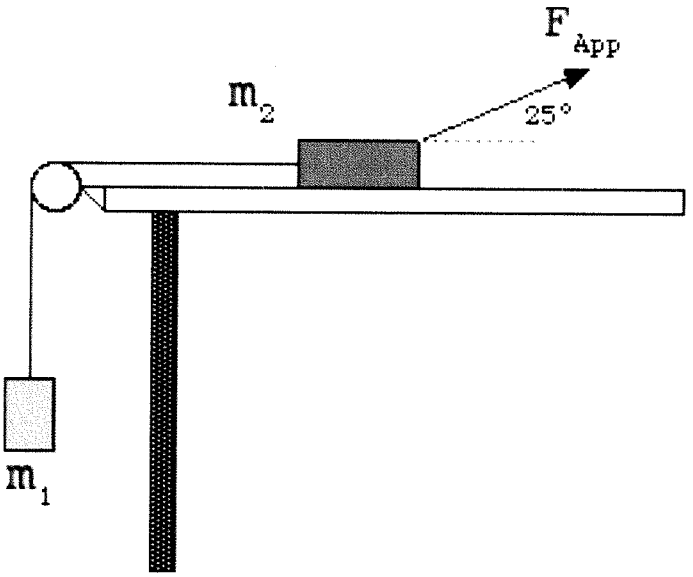
Physics 10154 - Exam #4B

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 masses (m_1 = 1.0 kg, m_2 = 2.0 kg) are connected by a massless string over a pulley as shown below. An applied force of 32 N acts on m_2 as shown. No friction.

Find the tension in the string and the acceleration of m_1.



2. A 7.0 kg mass is being pushed up a ramp with by an applied force of 74 Newtons directed horizontally. The mass is moving at a constant speed of 2.0 meters/sec.

What is the coefficient of kinetic friction between the mass and the ramp?