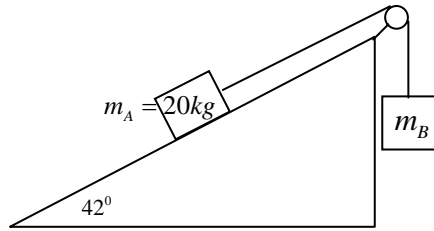


1. You have a mass (20kg) sitting on an incline plane at an angle of 42 degrees. This mass is attached to a second mass that is suspended by a pulley as in the diagram below. If the coefficient of static friction is 0.3 and the coefficient of kinetic friction is 0.25 determine



- a) The maximum mass of the hanging mass before it slides
 b) The minimum mass of the hanging mass before it slides
 c) The rate of acceleration and the tension in the rope in a) and b) if the static friction is broken by a temporary impulse force.
2. Determine the tension of the rope and acceleration of the system below.

$$m_A = 12\text{kg}$$

$$m_b = 27\text{kg}$$

