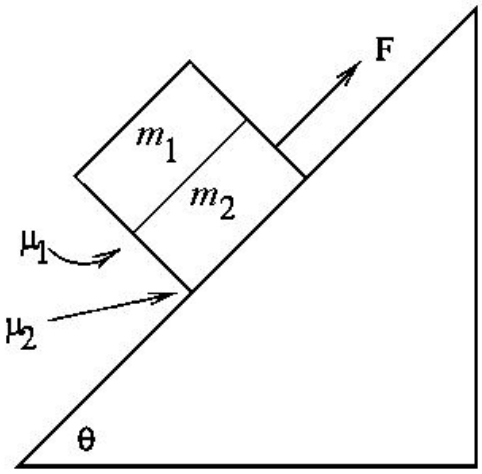
QP11



Upon an inclined plane of angle θ is placed a block of mass m_2. Upon m_2 is placed another block of mass m_1. The coefficient of static friction between m_2 and the inclined plane is μ_{2s} and the coefficient of sliding friction is μ_{2k}. Likewise, the coefficient of static friction between m_1 and m_2 is μ_{1s} and the coefficient of sliding friction is μ_{1k}. A force F upward and parallel to the plane is applied to m_2.

a) (2 points) What is the acceleration of m_2 when m_1 just starts to slip on it?

b) (2 points) What is the maximum value of F before this slipping takes place?