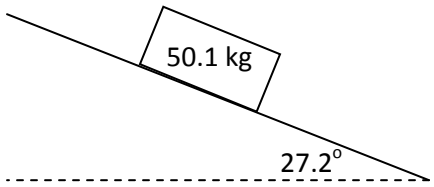
Inclined Plane Worksheet

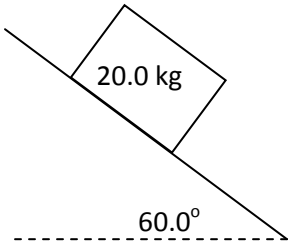
Name: _____ Period: ____ Date: _____

Use the diagrams below to answer the questions. Assume the block accelerates down the ramp unless explained otherwise. SHOW ALL WORK!

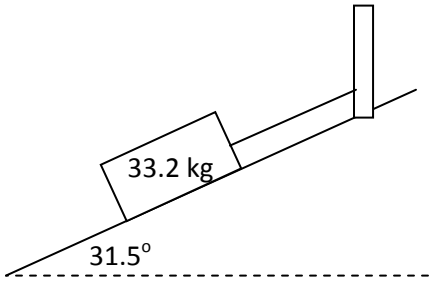
1. Determine the acceleration of the block below if the coefficient of static friction is 0.343.



2. If the acceleration of the block in the diagram below is 5.00 m/s^2, what is the coefficient of kinetic friction?



3. The block in the diagram below is AT REST. However, the tension in the cable is not the only thing holding the block back. Static friction is also applying a force. If the coefficient of static friction is 0.214 determine the tension in the rope.



4. Paul is pushing the couch up the ramp into the moving truck at a CONSTANT VELOCITY. If he pushes with a force of 241 N directly to the right (NOT AT ANY ANGLE), what is the coefficient of kinetic friction? The mass of the couch is 36.3 kg.