

## **Physics 10154 - Exam #5D**

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. A 4.5-kg block is being pushed vertically up a rough wall by a 75-N applied force that makes a  $65^\circ$  angle with the horizontal. The block slides at a constant speed of 3.0 meters/sec. What is the coefficient of kinetic friction between the block and the wall?

2. Starting from rest, a 2500-kg car rolls down a 12-meter long driveway that makes an angle of  $17^\circ$  with respect to the horizontal. An average frictional of 1600 Newtons impedes the car's motion. What is the speed of the car at the bottom of the driveway?