

Name: \_\_\_\_\_

## Physics 201 Quiz 3

Jan 28, 2013

### Word Problems

Show all your work and circle your final answer. (Ten points each.)

1. In Figure 1, the weight of the block on the table is 422 newtons and that of the hanging block is 185 newtons. Ignoring all frictional effects and assuming the pulley to be massless, find (a) the acceleration of the two blocks and (b) the tension in the cord.

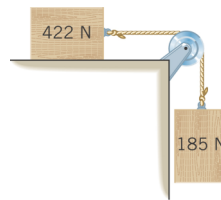


Figure 1: Problem 4.76

- 2.** A student is skateboarding down a ramp that is 6.0 meters long and inclined at  $18^\circ$  with respect to the horizontal. The initial speed of the skateboarder at the top of the ramp is 2.6 m/s. Neglect friction and find the speed at the bottom of the ramp.