

Name: _____

Date: _____

WS 2.3A: Inclined Planes & Pulleys (No Friction)

Unit 2: Dynamics and Equilibrium

1. Bob pulls on a 10. kg mass with a force of 40.0 N North. Sally pulls at the same time on the mass with a force of 30.0 N West. What will be the resulting acceleration if the mass is on a frictionless surface?
2. A student is skateboarding down a ramp that is 6.0 m long and inclined at 18° 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.
3. To hoist himself into a tree, a 72.0 Kg man ties one end of a nylon rope around his waist and throws the other end over a branch of the tree. He then pulls downward on the free end of the rope with a force of 358 N. Neglect any friction between the rope and the branch, and determine the man's upward acceleration.

Also, give BC Science Physics 12 Pg. 57 #1-4 a try.

Answers: 1: 5.0 m/s^2 37° W of N | 2: 6.6 m/s | 3: 0.14 m/s^2