Name:_____Date:_____Course:_____Professor: _____

M16c Prelab: Newton's Second Law

Read the lab instructions before answering the questions

1. Charles designed a system to pull sleds uphill, but he needs to know the angle of the slope. He knows that the hill is 11 m high and that the distance from the base of the hill to the top is 19 m calculate the angle of the slope.
   Hint: You may assume that the hill forms a right triangle

2. After setting up his system, Charles needs to test it. He puts some weight on a sled at the base of the hill so it has a combined mass of 45 kg and connects it to his pulley. Then he puts 30 kg on the other end of the pulley and lets it fall into a hole he dug in the center of the hill. What is the dynamical acceleration of the sled?
   Hint: Use the angle you solved for in the previous problem