1. A sled is pulled up a hill by a rope at constant velocity. The sled has a mass of 12 kg and the slope is at an angle of 15 degrees above the horizontal. Calculate the tension in the rope

30.4 N

1. A 20 kg sled comes down a hill and onto level ground with a speed of 12 m/s. What net force is needed to bring the sled to a stop in a distance of 3 m?

480 N

1. A 7.00-kg box is attached to a 3.00-kg box by rope 1. The 7.00-kg box is pulled by rope 2 with a force of 25.0 N. Determine the acceleration of the boxes and the tension in rope 1. The boxes lie on a frictionless surface.

2.5 m/s^2, 7.5 N

1. Two blocks m1= 9.4 kg and m2 = 4.9 kg are connected by a homogeneous rope that has a mass of mr = 1.42 kg. A constant vertical force, F = 184.9 N, is applied to the upper block. What is the magnitude of the acceleration of the system? What is the magnitude of the tension in the rope at the bottom end of the rope? What is the magnitude of the tension in the rope at the top end of the rope?