CHAPTER 5

1. A person drags a 25 kg mass by a rope at an angle of 35 degrees above horizontal. The surface is frictionless and the person exerts a force of 45 N.
a. What is the acceleration of the mass?
b. If the mass starts at 5 m/s how far does it travel in 12 seconds?

2. Block A in diagram #2 has a mass of 10 kg, and block B has a mass of 14 kg. There is no friction on the surface. Find the acceleration of the two masses.

3. A 4 kg mass is sliding down a frictionless 53 degree inclined and is attached by a string and pulley to a 3 kg mass on a frictionless level surface.
a. Calculate the acceleration of the masses.
b. Calculate the tension in the rope.

4. A mass is sliding up a frictionless inclined plane whose angle of inclination is 34 degrees.
a. Find the acceleration of the mass.
b. If it starts with a velocity of 5 m/s how far along the surface will it travel in 1.43 s?