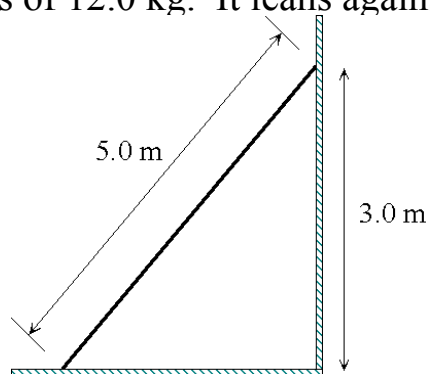Ex 2:   A 5.0 m long uniform ladder has a mass of 12.0 kg. It leans against a
frictionless wall as shown. Find:
a) the force of friction on the ground
b) the normal force of the wall on the ladder
c) the normal force of the floor on the ladder

5.0 m

3.0 m

A uniform 6.8m tall ladder is leaning against a frictionless wall. The ladder has a weight of 206N. The ladder slips when it makes a 42.0º angle with the horizontal floor. Determine the coefficient of static friction between the ladder and the floor.

A painter is standing on the ladder (mass 40 kg and length 2.5 m). there is a friction between the bottom of the ladder and the floor (0.30), but there is no friction between the ladder and the wall. A painter of mass 70 kg is standing a distance of 0.60 m from the top.
a) express the conditions for translational and rotational equilibrium for the ladder.
b) if the angle is 60.0 degrees, determine whether or not this ladder will slip.

A uniform 6.8 m tall aluminum ladder is leaning against a frictionless vertical wall. The ladder has a weight of 206 N. The ladder slips when it makes a 42.0∘ angle with the horizontal floor. Determine the coefficient of static friction between the ladder and the floor.