1. Roy is pushing a wooden crate of roast beef sandwiches (mmm, roast beef sandwiches, ohohohoh) across a carpeted floor. The crate has a mass of 300 kg. The force of friction from the floor on the crate is 250 N. Roy exerts a force of 1050 N on the crate. **Draw a free body diagram for the crate.**	2. **How much are the Net Force on the crate and the acceleration of the crate?** (8000, 2.667)
3. Roy & Glady are fighting over where to put the new dishwasher in their kitchen. Roy is trying to push the appliance to the right with a force of 325 N, and Gladys is trying to push it to the left with a force of 350 N. If the coefficient of static friction between the metal dishwasher and linoleum floor is 0.55, is the dishwasher even going to move at all? Draw a free body diagram showing all the forces acting on the dishwasher. [8750]	4. A flatbed semi truck is hauling a 1000 kg crate full of rubber vomit and fake dog crap. It is strapped down to the truck bed, and the straps provide an additional downward force of 4500 N on the crate. The coefficient of static friction between the wooden crate and the wooden truck bed is 0.59. How much is the maximum horizontal force the crate can withstand without sliding? Draw a free body diagram showing all the forces acting on the crate. [11440]
5. This wooden block has a mass of 2 kg. The coefficient of static friction between the block and the tabletop is 0.42, and the coefficient of kinetic friction is 0.28. Find the force necessary *start* the block moving to the right. Find the force necessary to *keep* the block moving at *constant velocity*. Finally, if you stop pushing on the block once you get it moving, how much is its acceleration? [8.400, 5.600, 2.800]	6. Three helium balloons are now attached to the block. Each one pulls up on the block with a force of 1.5 N. What force is now needed to get the block moving? How much force is needed for the block to then accelerate at 5 m/sec²? [6.510, 14.51]