

1. A 1 kg brick is on the horizontal table. The friction coefficient between the brick and the table is 0.1. We push the brick with force  $F$  directed parallel to the table. Find the friction force for 2 cases:
  - a)  $F=0.5\text{N}$
  - b)  $F=2\text{N}$
2. Make a plot of the dependence of the friction force from Problem 1 on the pushing force  $F$ .
3. A 400g block originally moving at 120cm/s coasts 70cm along a tabletop before coming to a rest. What is the coefficient of friction between the block and the table?
4. The breaking strength of a steel cable is 20kN. If one pulls horizontally with this cable, what is the maximum horizontal acceleration which can be given to a 8-ton body resting on a rough horizontal surface if the friction coefficient is 0.15?