

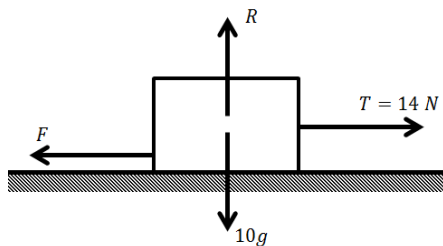
Section 1: Friction

Exercise level 1

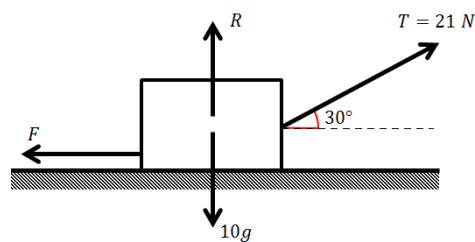
Take $g = 9.8 \text{ m s}^{-2}$ unless stated otherwise.

1. Each diagram below shows a block of mass 10 kg resting on a rough horizontal surface. The block is being pulled by an inextensible rope with tension T . Given that the block is on the point of sliding in each case, find
- The normal reaction of the surface on the block
 - The coefficient of friction.

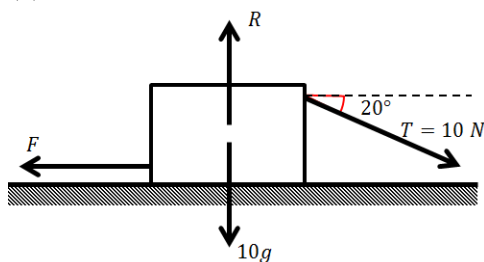
(a)



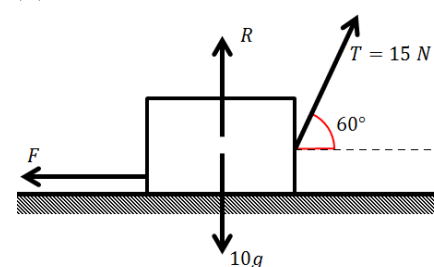
(b)



(c)



(d)



2. A block of weight 18 N rests in equilibrium on a rough horizontal plane under the action of a force of 9 N . Find the magnitude of the frictional force on the block given that the external force acts
- horizontally
 - vertically downwards
 - downwards at an angle of 60° to the horizontal.