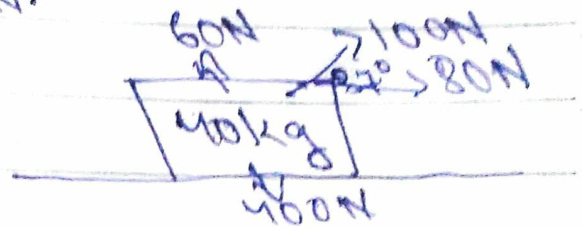


1. A student pulls a box of books on a smooth horizontal floor with a force of 100N in a direction of 37° above the horizontal surface. If the mass of the box and the books is 40kg , what is the acceleration of the box and the normal force on the box by the floor?

Ans Normal force = $400 - 60 = 340\text{N}$.
Acceleration = 2m/s^2 .



2a Does the Earth exert a force on every particle near its surface?

Ans Yes.

b Is this a long-range force or contact force?

Ans Long-Range force.

c What is the magnitude of this force on a particle of mass m ? What is the direction of this force?

Ans 9.8m/s^2 . Downwards.

(I) What then is gravitational force on A by Earth?

What then is gravitational force on B by Earth?

Ans 9.8m/s^2 on both A and B.

(II) What is the acceleration of the falling object A? What is the acceleration of the falling object B?

Ans 9.8m/s^2 on both. A and B.