1 A student has an object with a mass of 5.0 kg.

Calculate the weight of the object.

weight of object = ... N [2]

[Total: 2]

2 The weight of a skydiver is 750 N.

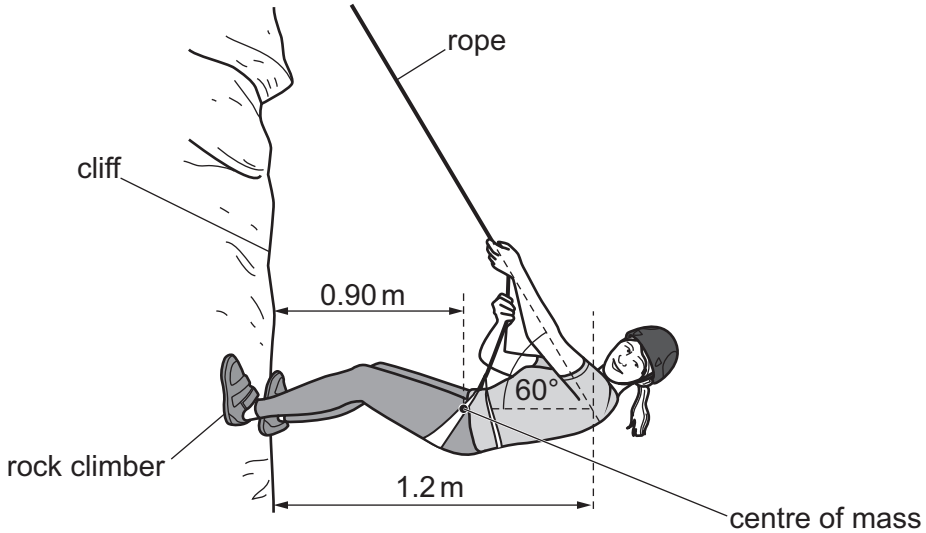
Calculate the mass of the skydiver.

mass = ... kg [3]

[Total: 3]

3 A rock climber, of total mass 62 kg, holds herself in horizontal equilibrium against a vertical cliff. She pulls on a rope that is fixed at the top of the cliff and presses her feet against the cliff.

The diagram shows her position.



(not to scale)

Calculate the total weight of the climber.

weight = ... [1]

[Total: 1]

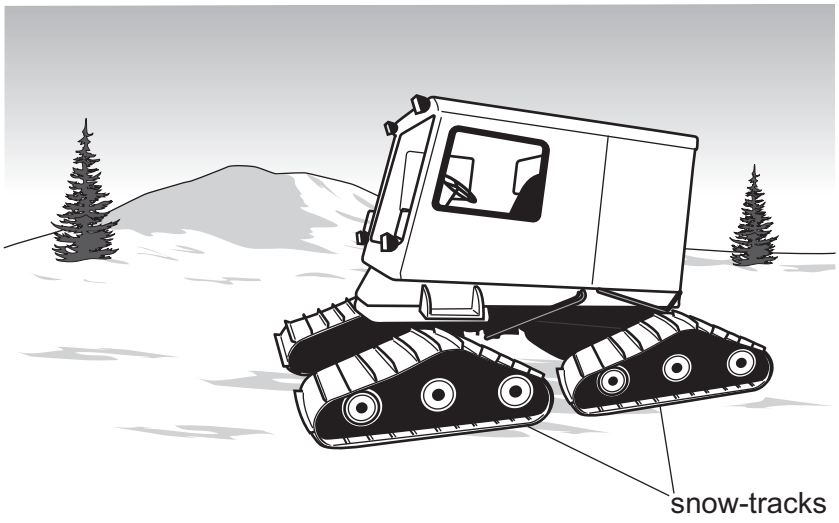
4 The mass of a metal block is 0.84 kg.

Calculate the weight of the metal block.

weight = ...N [2]

[Total: 2]

5 The diagram shows a vehicle that is designed to travel on snow.



The vehicle has four snow-tracks.

The weight of the vehicle is 4000 N.

(a) Calculate the mass of the vehicle.

mass = ... kg [3]

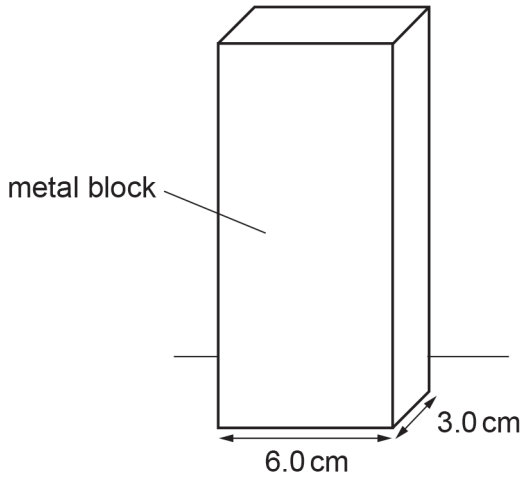
(b) The area of each snow-track in contact with the ground is 2.0 m^2. Each snow-track supports a quarter of the weight of the vehicle.

Calculate the pressure that each snow-track exerts on the ground. Include the unit in your answer.

pressure exerted by each snow-track = ... unit ..... [4]

[Total: 7]

6 The diagram shows a metal block on a flat surface.



The mass of the metal block is 1.6 kg.

Calculate the weight of the metal block.

weight = ... N [2]

[Total: 2]

7 The mass of an empty beaker is 400 g.

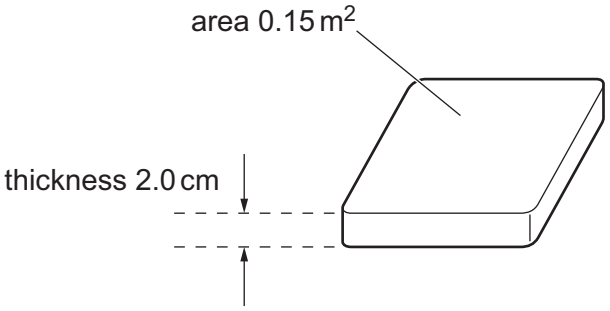
Calculate the weight of the empty beaker.

weight = ... N [4]

[Total: 4]

8 The diagram shows a piece of glass of thickness 2.0 cm and area 0.15 m^2.

The density of the glass is 2.6 10^3 kg / m^3.



Calculate the weight of the piece of glass.

weight = ... [3]

[Total: 3]