2 **(a)** Distinguish between *mass and weight*.

mass: .....

.....

weight: .....

.....

[2]

(b) An object O of mass 4.9 kg is suspended by a rope A that is fixed at point P. The object is pulled to one side and held in equilibrium by a second rope B, as shown in Fig. 2.1.

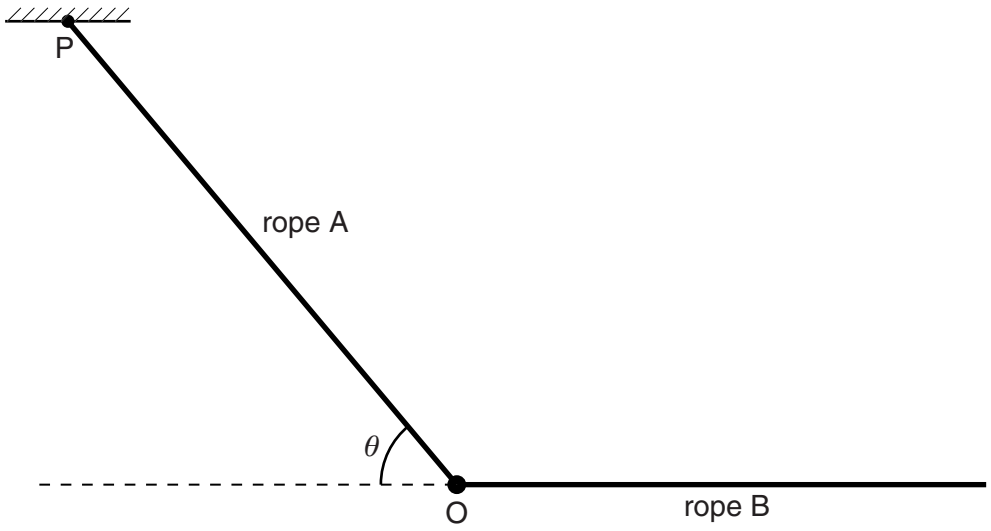

Fig. 2.1

Rope A is at an angle θ to the horizontal and rope B is horizontal. The tension in rope A is 69 N and the tension in rope B is *T*.

(i) On Fig. 2.1, draw arrows to represent the directions of all the forces acting on object O. [2]

(ii) Calculate

For Examiner's Use

1. the angle θ,

θ = ...° [3]

2. the tension T.

T = ... N [2]