

Answer **all** the questions in the spaces provided.

- 1 (a) Distinguish between scalars and vectors.

.....
..... [1]

- (b) Underline **all** the vector quantities in the list below.

acceleration kinetic energy momentum power weight [2]

- (c) A force of 7.5 N acts at 40° to the horizontal, as shown in Fig. 1.1.

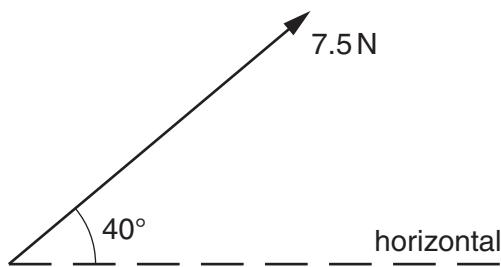


Fig. 1.1

Calculate the component of the force that acts

- (i) horizontally,

horizontal component = N [1]

- (ii) vertically.

vertical component = N [1]

- (d) Two strings support a load of weight 7.5 N, as shown in Fig. 1.2.

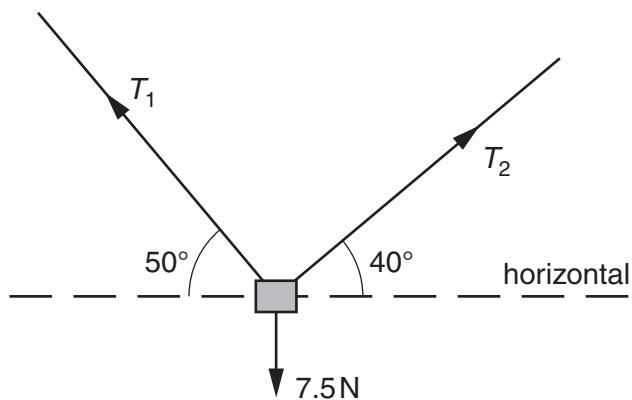


Fig. 1.2

One string has a tension T_1 and is at an angle 50° to the horizontal. The other string has a tension T_2 and is at an angle 40° to the horizontal. The object is in equilibrium. Determine the values of T_1 and T_2 by using a vector triangle or by resolving forces.

$$T_1 = \dots \text{ N}$$

$$T_2 = \dots \text{ N}$$

[4]