

- 1 A force is a vector quantity.

State **two** features of a vector quantity.

1.
2. [2]

[Total: 2]

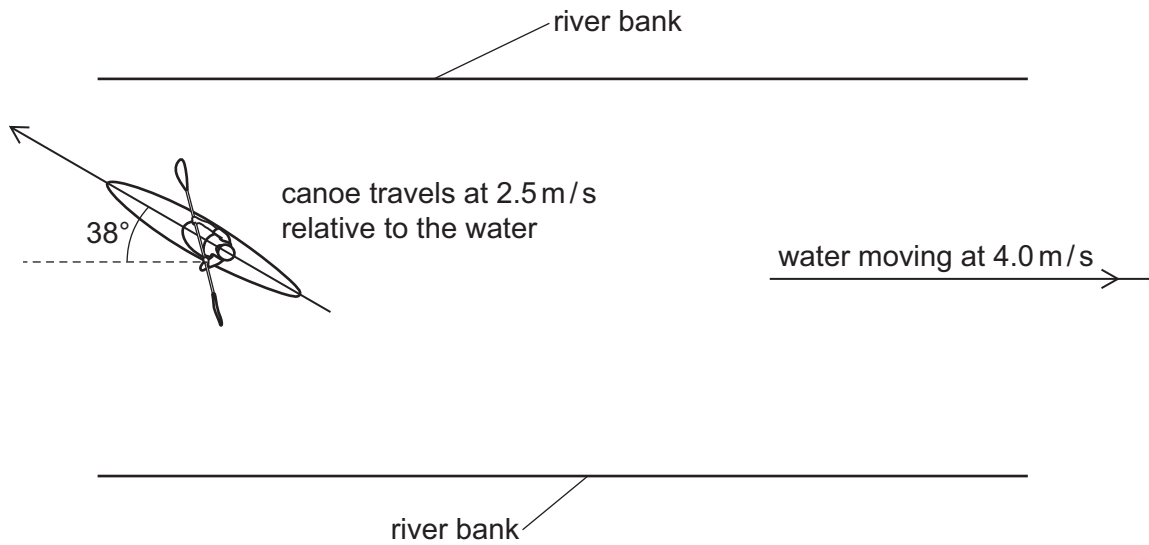
- 2 A force is a vector quantity.

State the names of **two** other quantities that are vectors.

1.
2. [2]

[Total: 2]

- 3 The diagram shows water in a river moving parallel to the river bank at 4.0 m/s and a canoe travelling in the river.



The canoe travels at 2.5 m/s relative to the water and heads at an angle of 38° to the river bank.

Draw a scale diagram to determine the canoe's resultant velocity and state the scale you used.

scale

magnitude of resultant velocity

direction of resultant velocity (angle from the river bank) [4]

[Total: 4]

4 Force is a vector.

Draw a circle around **two** other quantities in the list which are vectors.

acceleration

density

energy

mass

momentum

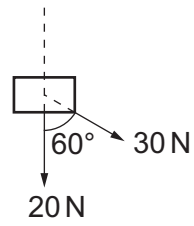
power

refractive index

[2]

[Total: 2]

- 5 The diagram shows two forces acting on an object.



Draw a scale diagram to determine the resultant force acting on the object. State the scale you use.

scale

magnitude of resultant force =

direction of resultant relative to the direction of the 20 N force = [4]

[Total: 4]

- 6 Velocity is a vector quantity.

State **one** other vector quantity.

..... [1]

[Total: 1]

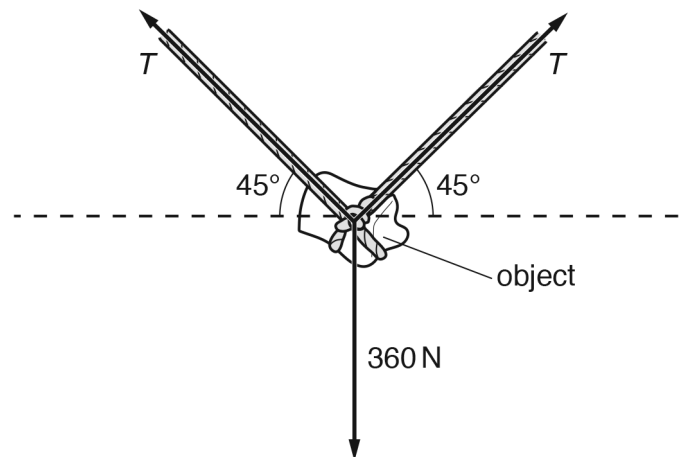
- 7 Speed is a scalar quantity.

State **one** other scalar quantity.

..... [1]

[Total: 1]

- 8 The diagram shows an object suspended from two ropes. The weight of the object is 360 N. The magnitude of the tension in each rope is T .



In the space below, determine the tension T by drawing a vector diagram of the forces acting on the object.

State the scale you have used.

scale

$T =$ [5]

[Total: 5]

- 9 Speed is a scalar quantity and velocity is a vector quantity.

(a) State how a *scalar* quantity differs from a *vector* quantity.

.....

[1]

(b) Underline the **two** scalar quantities in the list.

energy force impulse momentum temperature

[1]

[Total: 2]

10 Acceleration is a vector quantity.

Underline the **two** vector quantities in the list below.

energy forces frequency impulse mass refractive index

[1]

[Total: 1]