

Q1. (2018)

0 1 . 1

Which of these is a scalar quantity?

[1 mark]

Tick **one** box.

displacement

☐

distance

☐

force

☐

velocity

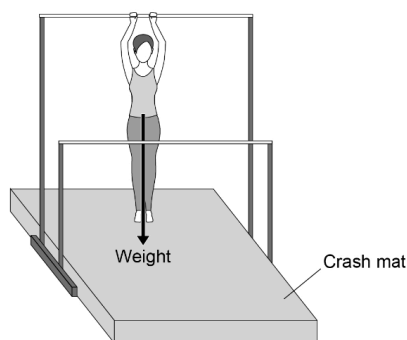
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Q2. (2019)

0 2

Figure 3 shows a gymnast on a piece of gymnastic equipment.

The equipment consists of two bars at different heights.

Figure 3

a)

0 2 . 2

Why is the weight of the gymnast represented by an arrow?

[1 mark]

Tick (✓) **one** box.

Weight is a constant.

☐

Weight is a scalar.

☐

Weight is a unit.

☐

Weight is a vector.

☐

b)

0 2 . 4

The gymnast has a mass of 45 kg

gravitational field strength = 9.8 N/kg

Calculate the weight of the gymnast.

Use the equation:

$$\text{weight} = \text{mass} \times \text{gravitational field strength}$$

[2 marks]

Q3. (2020)

0 1

Figure 1 shows a girl bowling a ball along a ten-pin bowling lane.

Figure 1



The girl is trying to knock down the ten pins at the end of the bowling lane.

As the ball travels along the lane the velocity of the ball decreases.

0 1 . 1

Velocity is a vector.

Which statement describes a vector?

[1 mark]

Tick (✓) **one** box.

Vectors have direction only.

☐

Vectors have magnitude and direction.

☐

Vectors have magnitude only.

☐

Q4. (2021)

0 7

Professional rugby players wear a tracking device that measures their velocity and acceleration.

Figure 9 shows a player wearing a tracking device.

The player is tackling another player who is running with the ball.

Figure 9



0 7 . 1 Velocity and acceleration are both vector quantities.

What is a vector quantity?

[1 mark]

Tick (✓) **one** box.

A quantity with both magnitude and direction

☐

A quantity with direction only

☐

A quantity with magnitude only

☐

Q5. (2021)

0 7 . 2 Which of the following is a vector quantity?

[1 mark]

Tick (✓) **one** box.

Displacement

☐

Distance

☐

Time

☐

Work done

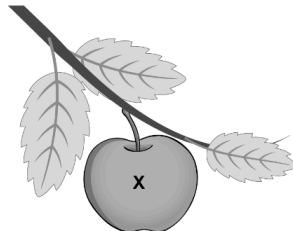
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Q6. (2022)

0 3 . 1 **Figure 4** shows an apple hanging from a tree.

The **X** marks the centre of mass of the apple.

Figure 4



0 3 . 1 Draw an arrow on **Figure 4** to represent the weight of the apple.

[1 mark]