OCR A Physics GCSE

2.1 - Motion

Flashcards

State the equation linking distance, speed and time. Give appropriate units.

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Distance = Speed x Time

Distance (m), Speed (m/s), Time (s)

How can speed be calculated from a distance-time graph?

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The speed is equal to the gradient of the graph.

What must be done to calculate speed at a given time from a distance-time graph for an accelerating object?

What must be done to calculate speed at a given time from a distance-time graph for an accelerating object?

- Drawing a tangent to the curve at the required time.

- Calculating the gradient of the tangent.

State the equation for the average acceleration of an object. Give appropriate units.

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Acceleration = (Change in Velocity)/(Time Taken)

Acceleration (m/s²), Velocity (m/s), Time (s)

How can the distance travelled by an object be calculated from a velocity-time graph? (Higher)

How can the distance travelled by an object be calculated from a velocity-time graph? (Higher)

It is equal to the area under the graph.

What is a scalar quantity?

What is a scalar quantity?

- A quantity that only has a magnitude.
- A quantity that isn't direction dependent.

What is a vector quantity?

What is a vector quantity?

A quantity that has both a magnitude and an associated direction.

How can a vector quantity be drawn and what does it show?

How can a vector quantity be drawn and what does it show?

- As an arrow.

- The length of the arrow represents the magnitude.

- The arrow points in the associated direction.

Is a force a vector or a scalar quantity?

Is a force a vector or a scalar quantity?

- Vector.

- It has both a magnitude and an associated direction.

Give three examples of vector quantities.

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1. Velocity

2. Displacement

3. Force

Give three examples of scalar quantities.

Give three examples of scalar quantities.

- Temperature
- Time
- Mass
- Speed
- Distance

How do you calculate average speed for non-uniform motion?

How do you calculate average speed for non-uniform motion?

Average Speed (m/s) = Change in Distance (m) / Change in Time (s)

What piece of apparatus may be used to record the time taken for a very fast object to move a given distance?

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Light Gates