OCR A Physics GCSE

2.1 - Motion

Flashcards

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

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

Distance = Speed x Time

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

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

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

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.

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

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

Acceleration (m/s^2), 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.

Give three examples of vector quantities.

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?

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

Light Gates