IGCSE-Physics

Worksheet-2 (Speed & acceleration)-P2

Instructions for Multiple choice:

- Choose the one you consider correct.
- Any rough working should be done in this booklet.
- Electronic calculators may be used
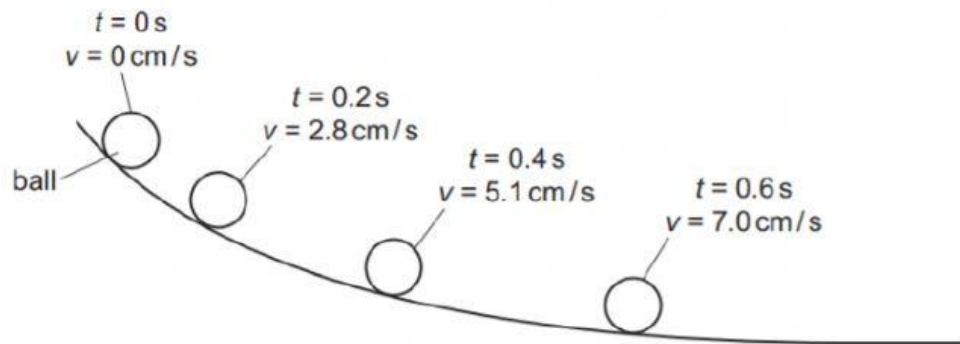
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Q1)

A student investigates the motion of a ball rolling down a slope.

The diagram shows the speed v of the ball at different times t.

Which statement describes the motion of the ball?

A   The acceleration is not constant.

B   The acceleration is negative.

C   The speed is decreasing.

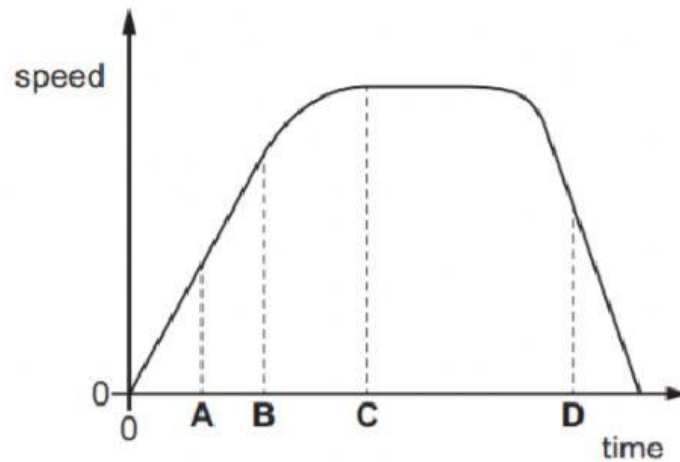**D**   The velocity is constant.

Q2)

Which statement about acceleration is correct?

A   It is related to the changing speed of an object.

B   It is the distance an object travels in one second.

C   It is the force acting on an object divided by the distance it travels in one second.

D   It is the force acting on an object when it is near to the Earth.

Q3)

The graph shows how the speed of an object varies with time.
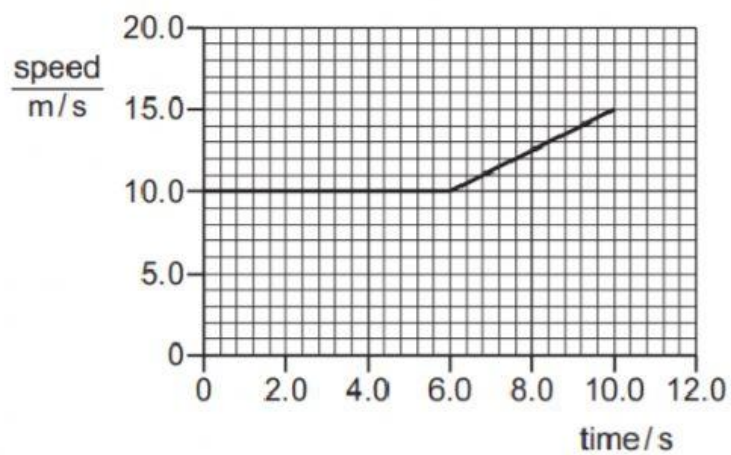
At which labelled time is the object decelerating?

Q4)

A car travels at an average speed of 60 km/h for 15 minutes.

How far does the car travel in 15 minutes?

A   4.0 km   B   15 km   C   240 km   D   900 km

Q5)

The graph shows how the speed of a car varies during part of a journey.

What is the acceleration of the car between 6.0 s and 10.0 s?

A $0.50 \, m/s^2$ **B** $0.80 \, m/s^2$ **C** $1.25 \, m/s^2$ **D** $1.50 \, m/s^2$

Q6)

A light object is dropped from rest. It falls a large distance vertically through air.

How can the motion of the object be described?

A   constant acceleration

B   increasing acceleration

C   decreasing acceleration and then moving at terminal velocity

D   increasing acceleration and then moving at terminal velocity

Q7)

The velocity of an object increases from $30\,m/s$ to $50\,m/s$ in 5.0 seconds.
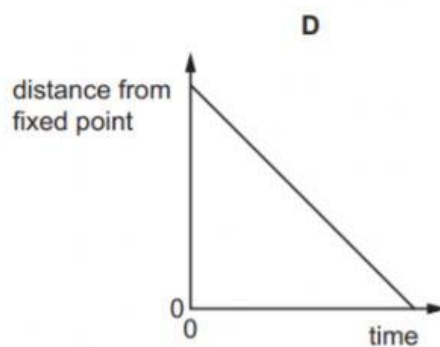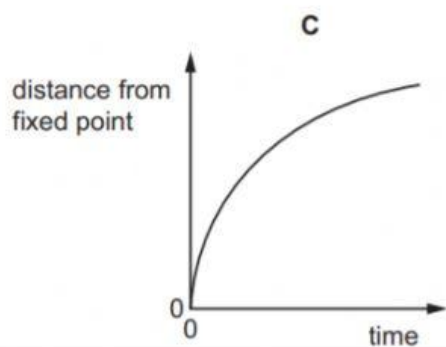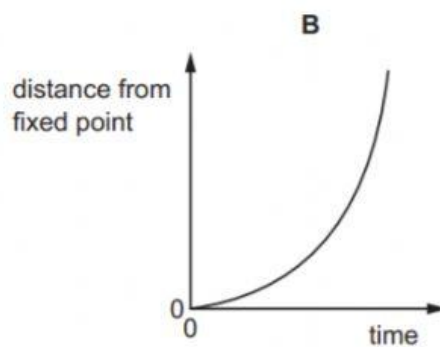
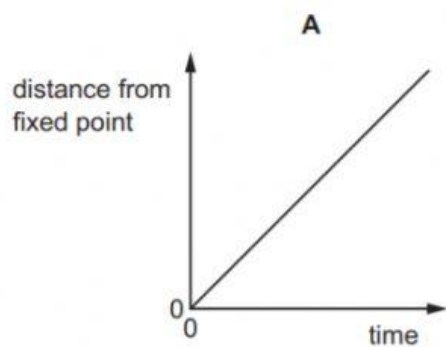What is the average acceleration of the object?

A $0.10\,m/s^2$ B $0.25\,m/s^2$ C $4.0\,m/s^2$ D $10\,m/s^2$

Q8)

Four objects are moving along a straight line.

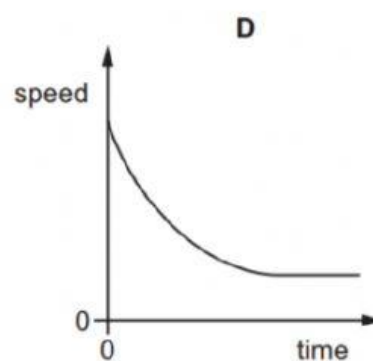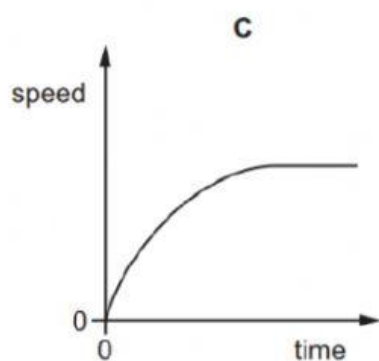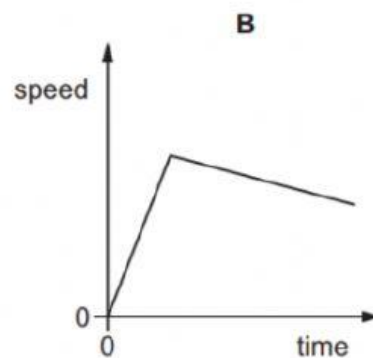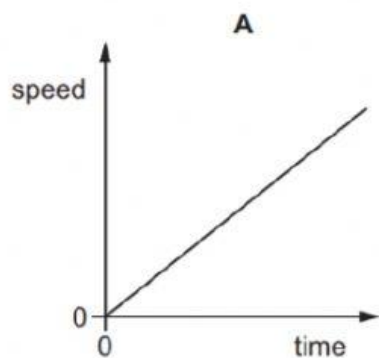The distance of an object from a fixed point on the line is plotted against time for each object.

Which object is decelerating?

Q9)

A small, light ball is dropped from the top of a tall building.

Which graph shows how the speed of the ball changes with time?

Q10)

A runner runs 300 m at an average speed of 3.0 m/s. She then runs another 300 m at an average speed of 6.0 m/s.

What is her average speed for the total distance of 600 m?

A   2.0 m/s   **B**   4.0 m/s   **C**   4.5 m/s   **D**   8.0 m/s