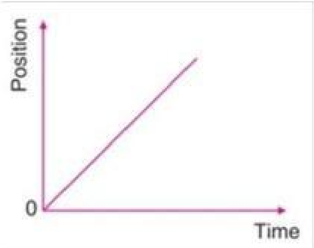
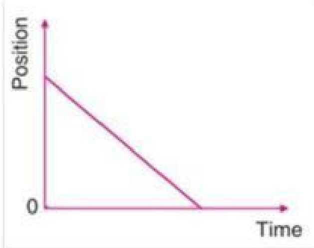
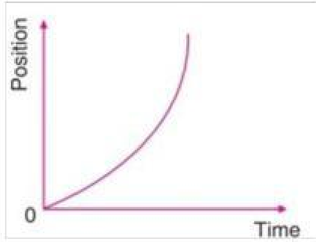
Part 5: Motion graphs

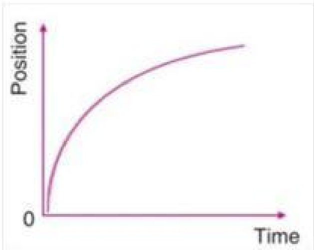
Test yourself

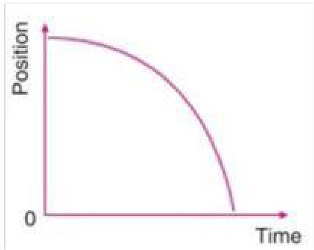
1- Describe the velocity of the moving object depending on the (position-time) graphs shown down.

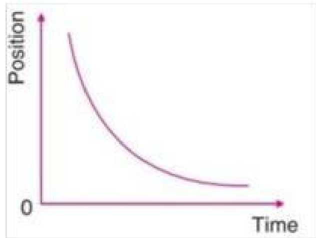


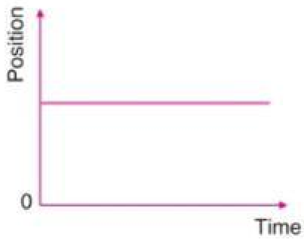






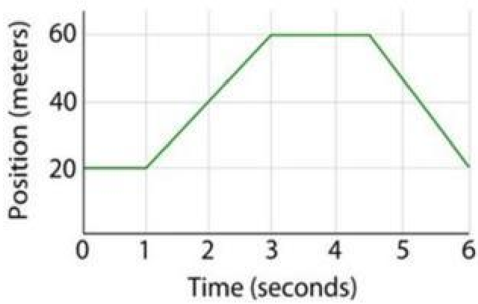






2- Use the following (position-time) graph to find the average velocity of the moving object as required in the table.

The average velocity between (t= 0 s to t= 1 s)	The average velocity between (t= 1 s to t= 3 s)	The average velocity between (t= 4.5 s to 6 s)
$v = \frac{-}{\quad}$ $v = \quad m/s$	$v = \frac{-}{\quad}$ $v = \quad m/s$	$v = \frac{-}{\quad}$ $v = \quad m/s$



3- The graph represents the motion of two different objects. Which object moves faster, Object A or Object B? explain your answer

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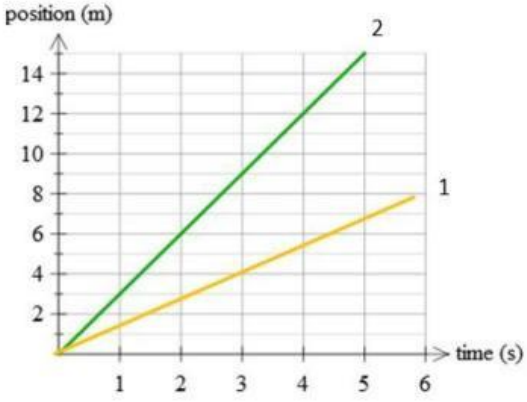
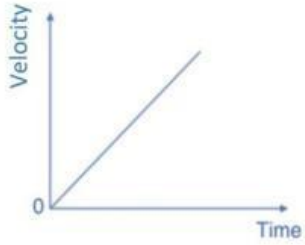
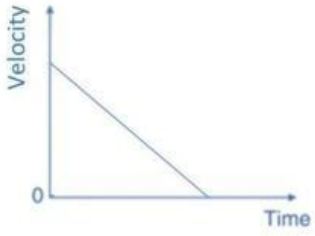
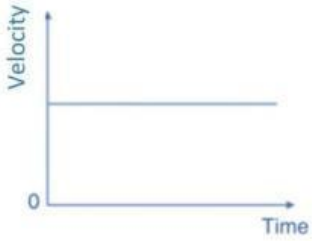


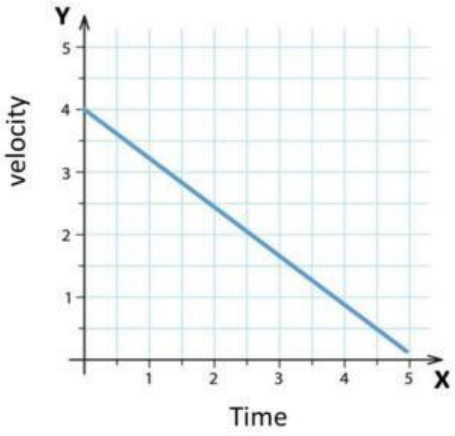
4. Describe the acceleration of the moving object depending on the (position-time) graphs shown down.





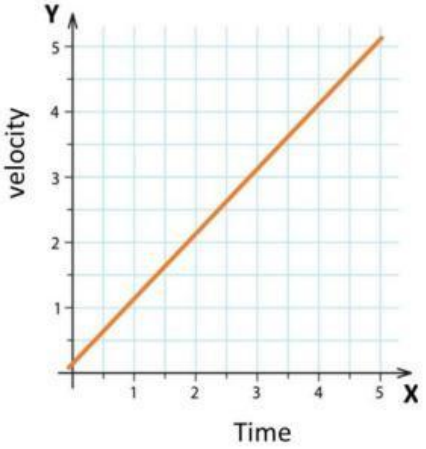


5. Calculate the average acceleration from the velocity-time graph.



$a = \frac{-}{\qquad}$

$a =$ m/s^2

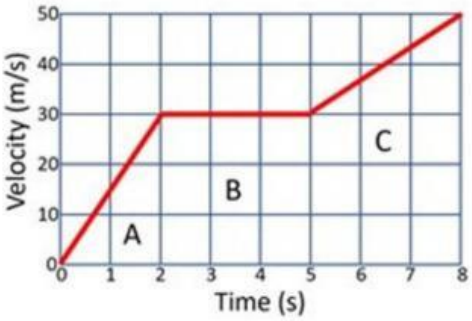


$a = \frac{-}{\qquad}$

$a =$ m/s^2

6- Use the following (velocity-time) graph to describe the object motion during each of the following time intervals

Section A (t= 0 s to t= 2 s)	Section B (t= 2 s to t= 5 s)	Section C (t= 5 s to t= 8 s)
$a = \frac{\quad}{\quad}$ $a =$ m/s^2	$a = \frac{\quad}{\quad}$ $a =$ m/s^2	$a = \frac{\quad}{\quad}$ $a =$ m/s^2



Part 5: Average acceleration

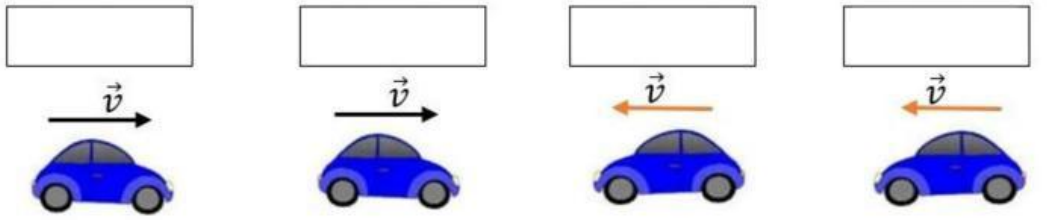
Average acceleration

$$a = \frac{v_f - v_i}{\Delta t}$$

Acceleration		
Types	Si unit	Vector or Scalar

Test yourself

1- Determine the direction of the car acceleration in each of the following cases. (right or left)



2- A bicycle rider increases his speed from 5 m/s to 15 m/s in 10 s. What is bicycle acceleration?

$$a = \frac{\quad}{\quad}$$

$$a = \qquad m/s^2$$