

## Forces

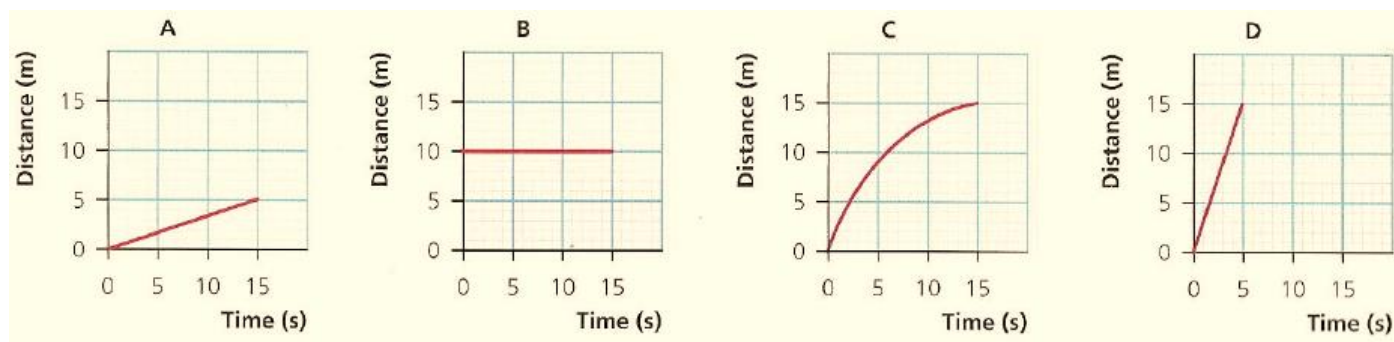
## 1. Speed

## CONCEPT 2

## TEST YOURSELF

## DESCRIBING JOURNEYS WITH DISTANCE-TIME GRAPHS

## KNOW



Q1 Label each of the graphs with one of the following captions:

fast constant speed

slow constant speed

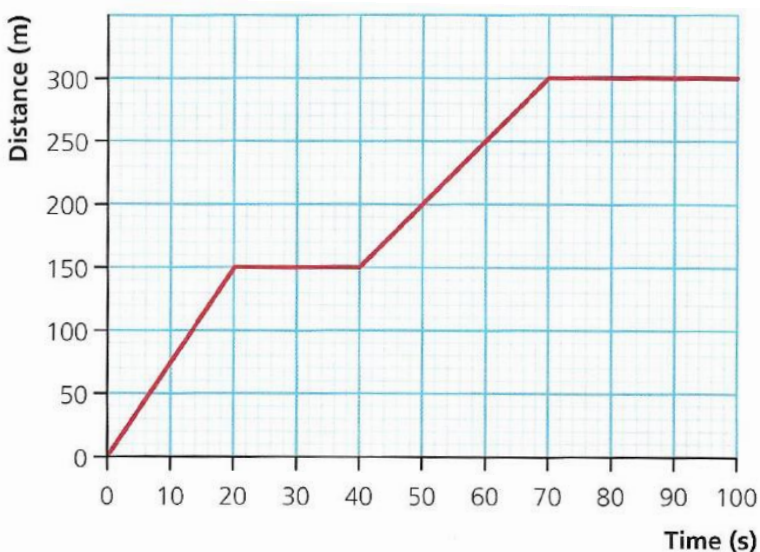
stationary

decelerating

Q2 For the two constant speed graphs, calculate the speeds that are represented in metres per second?

## APPLY

The distance-time graph below shows Tilly's journey to the shop.



Q3 Between what times is she:

(a) travelling at a constant speed?

(b) stationary?

(c) travelling the fastest?

Q4 How far does Tilly travel in total?

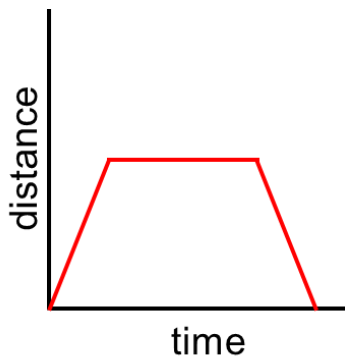
Q5 What is Tilly's speed between 40 s and 70 s?

Q6 What is Tilly's average speed for the whole journey?

## EXTEND



You will now be asked to sketch distance-time graphs. Your sketch should have the following axes:



Remember that if an object is moving away from its starting position then it increases in distance. If it is moving back to its starting point then it will decrease in distance towards zero.

*Example of a dog walking away from its owner, waiting for a moment then walking at the same speed back to the owner*

Q7 Sketch distance-time graphs to show the following:

- (a) a runner travelling at a steady speed
- (b) two race horses that start from the same place, but one is moving faster than the other.
- (c) a child walking from their house to a local shop, waiting at the shop for a while then jogging home.
- (d) a car slowing down for a speed bump, and then speeding up again.