

Applying skills

Problem solving

- 1 Think about your journey to school.
 - a Describe your journey.
 - b Draw a travel graph of your journey.
 - c Make up two questions for a friend to answer about your travel graph.

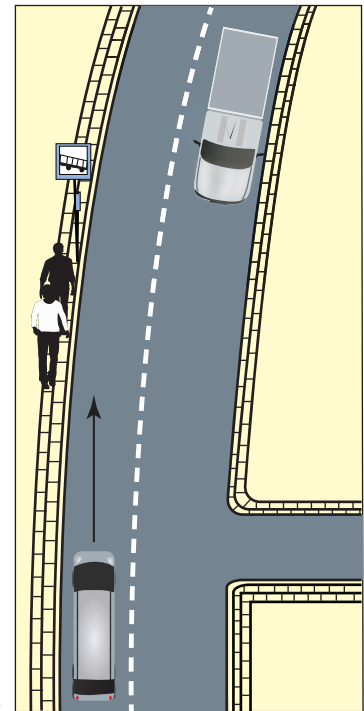
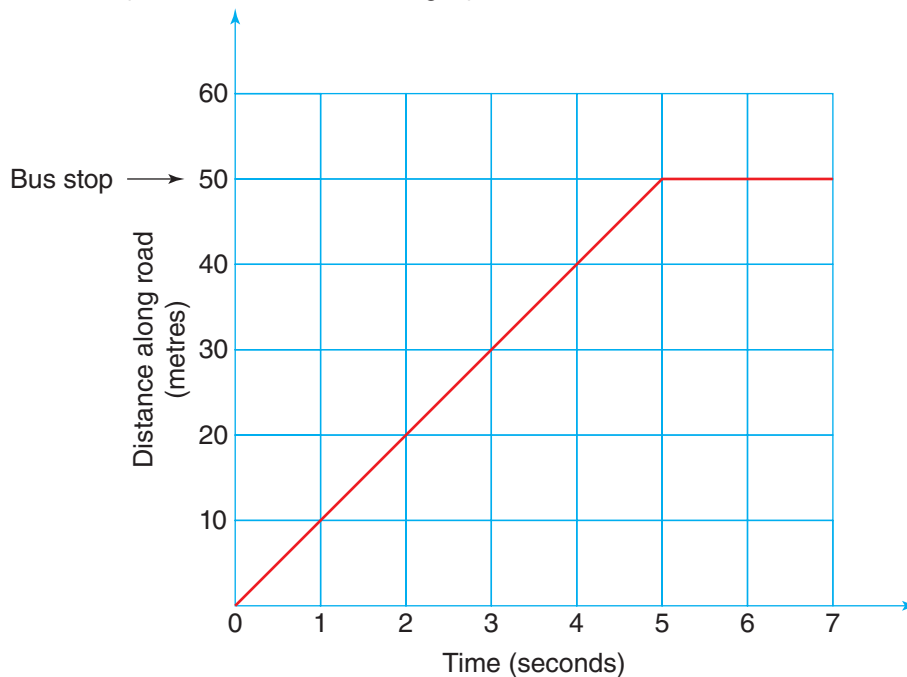
Problem solving

- 2 The table shows the value of £100 left in a savings account for eight years.

Time (years)	0	1	2	3	4	5	6	7	8
Value of investment (£)	100	110	121	133	146	161	177	194	214

- a Plot these points on a graph.
Join them with a smooth curve.
- b How much is the investment worth after $2\frac{1}{2}$ years?
- c After how long is the investment worth double its original value?

- 3** A bus is travelling at 10 metres per second towards a bus stop 50 metres away.
Here is a possible distance-time graph.



During the first 5 seconds, the bus is travelling at a constant speed of 10 m/s.

Then, on arrival at the bus stop, it suddenly stops dead in its tracks!

This is shown by the way in which the graph makes a sudden turn.

- a** What would happen if a real bus behaved in this manner?
- b** In the real world, a bus begins to slow down before it reaches the bus stop, and gradually comes to a halt.

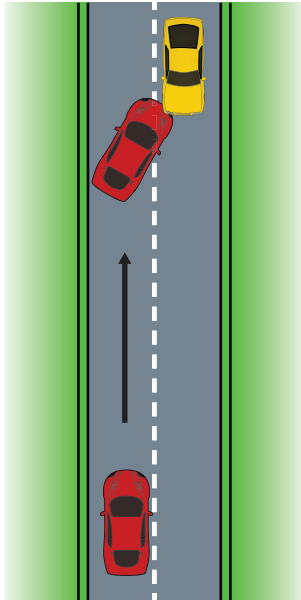
This is represented using smooth curves.

Redraw the graph to show what that might look like.

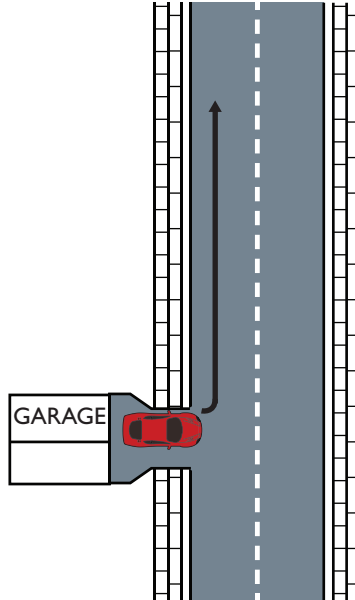
- c** Use your graph to find
 - i** when the driver begins to brake
 - ii** when the bus actually stops
 - iii** for how long the bus decelerates (slows down).

4 For each of the situations below, sketch a distance–time graph which will describe the events shown.

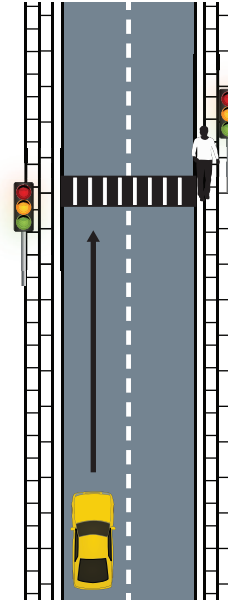
a



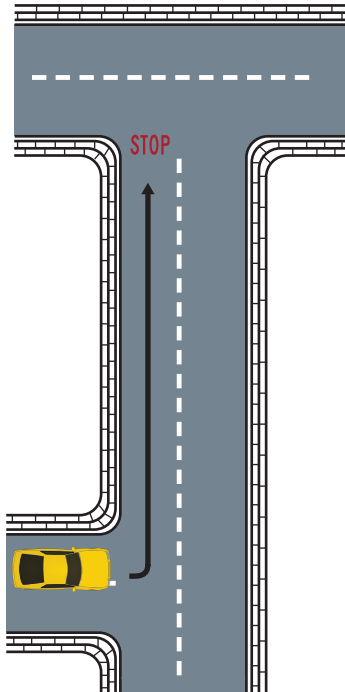
b



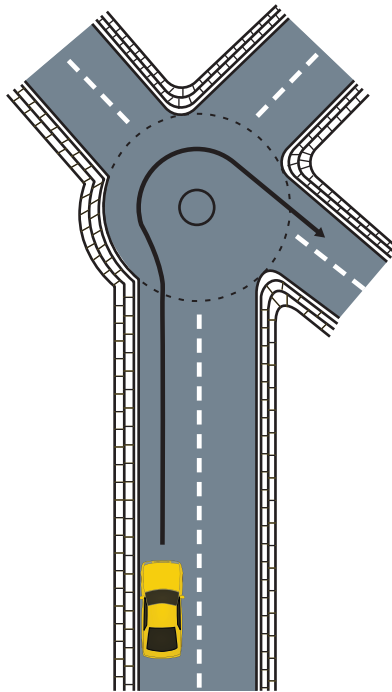
c



d



e



f

