

WEEK: 15

Week Beginning: (29/06/20)

Subject: MATHS

Year: 7

Lesson Objective:

- Be able to answer question that require you to estimate
- Understand the concept of Distance-Time graph
- Be able to answer GCSE Style on Distance-Time graph

Class Worksheets

- Pages 1 to 7 from the Learning Pack – See below

Homework

- Pages 8 & 9 from the Learning Pack – See below

Additional Notes

- All lesson worksheets and **homework for next week (due Week 16)** worksheets can be found below
- Week 14 homework will be marked in lesson hence make sure it is fully complete

Please print 2 a page or open this document during the lesson to save paper!

Exercise 3M

Do not use a calculator. Decide, by estimating, which of the three answers is closest to the exact answer. Write the calculation and the approximate answer for each question (use \approx).

	Calculation	A	B	C
1	102.6×9.7	90	500	1000
2	7.14×11.21	30	70	300
3	1.07×59.2	6	60	200
4	2.21×97.8	200	90	20
5	8.95×42.1	200	400	4000
6	4.87×6.18	15	10	30
7	789×12.3	8000	4000	800
8	978×9.83	1 million	100 000	10 000
9	1.11×28.7	20	30	60
10	9.8×82463	8 million	1 million	800 000
11	$307.4 \div 1.97$	50	100	150
12	$81.2 \div 0.99$	8	0.8	80
13	$6121 \div 102.4$	60	300	600
14	$59.71 \div 3.14$	10	20	180
15	$1072 \div 987.2$	0.2	1	10
16	$614 - 297.4$	300	100	3000
17	$0.104 + 0.511$	0.06	0.1	0.6
18	$8216.1 + 1.44$	800	4000	8000
19	51% of £8018.95	£40	£400	£4000
20	9% of £205.49	£10	£20	£200

Exercise 3E

- 1 A 'Pritt Stick' costs £1.99.
 - (a) Without a calculator, estimate the cost of twelve Pritt Sticks.
 - (b) Find the exact cost of twelve Pritt Sticks.



- 2 A box of drawing pins costs £3.85
Estimate the cost of 20 boxes of drawing pins.
- 3 A painting measures 12.2 cm by 9.7 cm.
(a) Without a calculator, estimate the area of the painting.
(b) Use a calculator to work out the exact area of the painting.
- 4 A new band's first demo CD was sold at £2.95 per copy.
Estimate the total cost of 47 copies.
- 5 Desmond has to pay £208.50 per month for 2 years towards the cost of his car. Estimate the total cost of his payments.
- 6 Two hundred and six people share the cost of hiring a train. Roughly how much does each person pay if the total cost was £61 990?

In questions 7 and 8 there are six calculations and six answers.

Write down each calculation and insert the correct answer from the list given. Use estimation.

- 7 (a) 6.9×7.1 (b) $9.8 \div 5$ (c) 21×10.2
(d) $0.13 + 15.2$ (e) $3114 \div 30$ (f) 4.03×1.9

Answers: 1.96 15.33 48.99 103.8 7.657 214.2

- 8 (a) $103.2 \div 5$ (b) 7.2×7.3 (c) 4.1×49
(d) $3.57 \div 3$ (e) $36.52 \div 4$ (f) $1.4 \div 10$

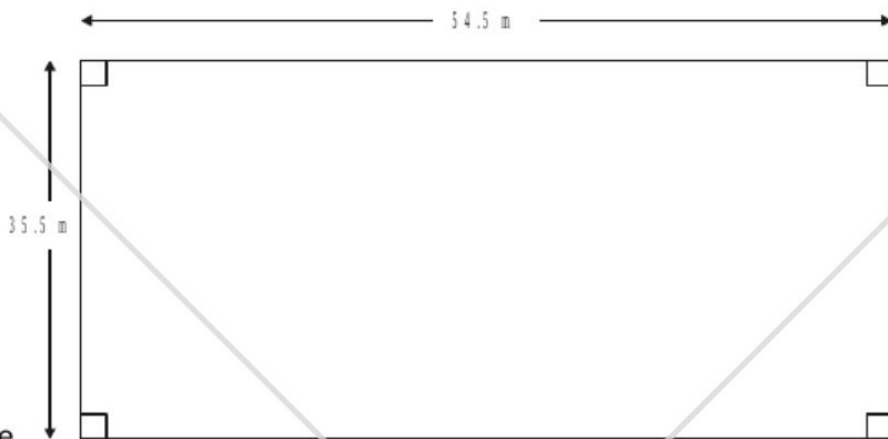
Answers: 52.56 1.19 9.13 200.9 20.64 0.14

Exercise 2E

- 1 Round each number:

- (a) to the nearest whole number,
(b) to one decimal place

- (i) 8.41 (ii) 0.782 (iii) 7.92 (iv) 4.95



The length of the field is 54.5 m. The width of the field is 35.5 m.

The field is for sale. Mrs Fox wants to buy the field. She also wants to plant a hedge along the perimeter.

The field costs £11.44 per square metre.

Hint: AREA = Length x Width.

Each metre length of hedge costs £4.81

Estimate how much money will Mrs Fox expect to spend in total?

2. Jamie goes on holiday to Florida.
The exchange rate is £1 = \$1.70
He changes £920 into dollars.

(a) Estimate how many dollars Jamie should expect to receive?

..... Dollars

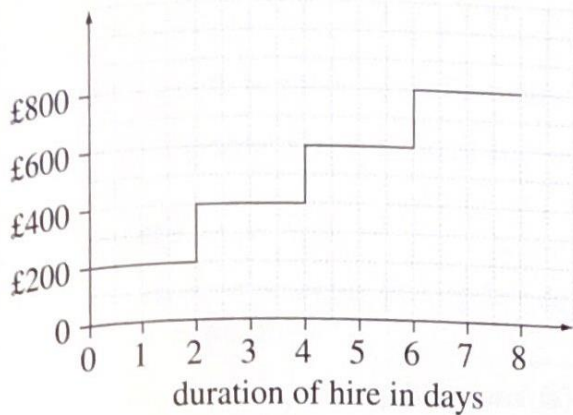
(2)

After his holiday Jamie changes 160 dollars back into pounds.
The exchange rate is still £1 = 1.70 dollars.

(b) Estimate how many pounds Jamie is expected to get back. How many pounds did Jamie spend on holiday?

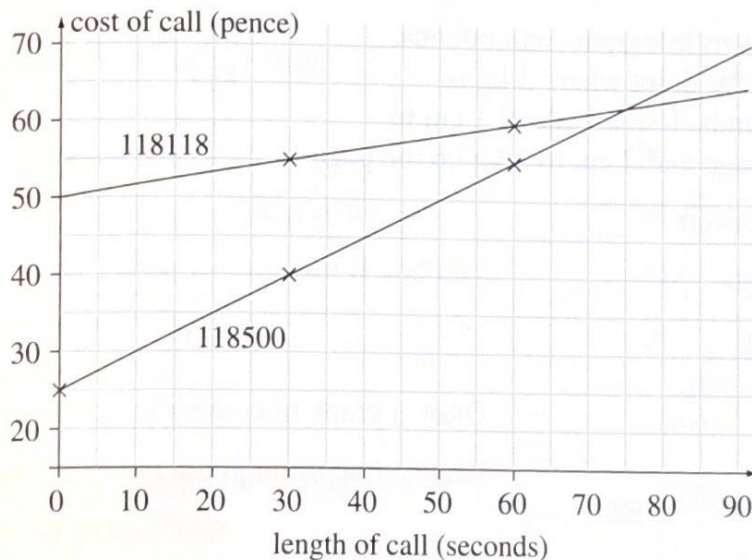
Exercise 1E

- 1 The cost of hiring a tank for filming depends on the duration of the hire.



- (a) How much does it cost to hire the tank for
- (i) 1 day (ii) $5\frac{1}{2}$ days (iii) 3 days
- (b) What is the minimum hire charge?

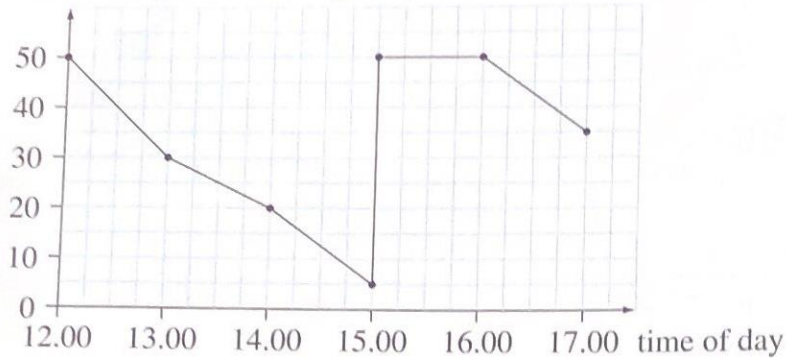
- 2 The graph shows the cost of making calls to two directory enquiry numbers.



- (a) How much does it cost for a 50 seconds call to 118500?
- (b) Using 118118, for how long can you call for 55p?
- (c) At what length of call do both numbers cost the same?

- 3 A car went on a five hour journey starting at 12.00 with a full tank of petrol. The volume of petrol in the tank was measured after every hour; the results are shown below.

volume of petrol in tank (litres)

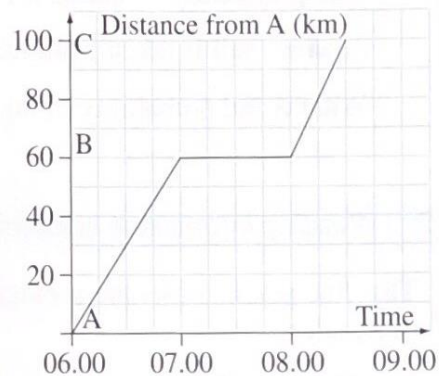


- (a) How much petrol was in the tank at 13.00?
 (b) At what time was there 5 litres in the tank?
 (c) How much petrol was used in the first hour of the journey?
 (d) What happened at 15.00?
 (e) What do you think happened between 15.00 and 16.00?
 (f) How much petrol was used between 12.00 and 17.00?

EXERCISE

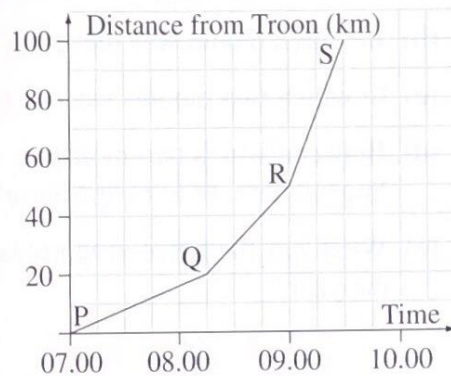
- 1 The graph shows a car journey from A to C via B.

- (a) How far is it from A to C?
 (b) For how long does the car stop at B?
 (c) When is the car half way between B and C?
 (d) What is the speed of the car
 (i) between A and B?
 (ii) between B and C?



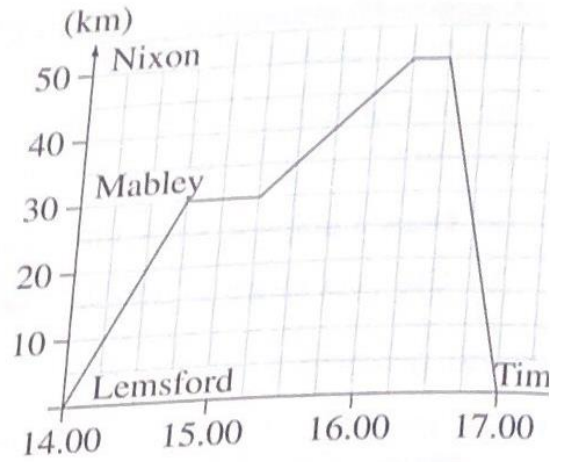
- 2 The graph shows the motion of a train as it accelerates away from Troon.

- (a) How far from Troon is the train at 08.45?
 (b) When is the train half way between R and S?
 (c) Find the speed of the train
 (i) from R to S
 (ii) from Q to R
 (d) How long does it take the train to travel 100 km?



3 The graph shows a car journey from Lemsford.

- For how long did the car stop at Mabley?
- When did the car arrive back at Lemsford?
- When did the car leave Mabley after stopping?
- Find the speed of the car
 - from Mabley to Nixon
 - from Nixon back to Lemsford.

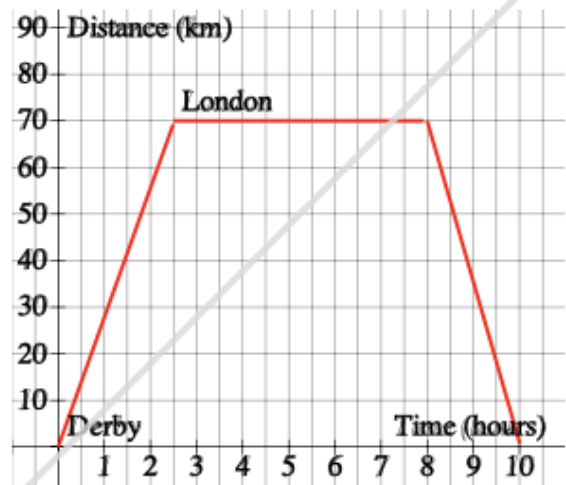


1) Julia drove from her home in Derby to London. She went shopping and then drove back home.

Find

- the distance from Derby to London.
- the time she spent shopping in London.
- the average speed on her journey home.

Leave answers to nearest whole number where necessary.

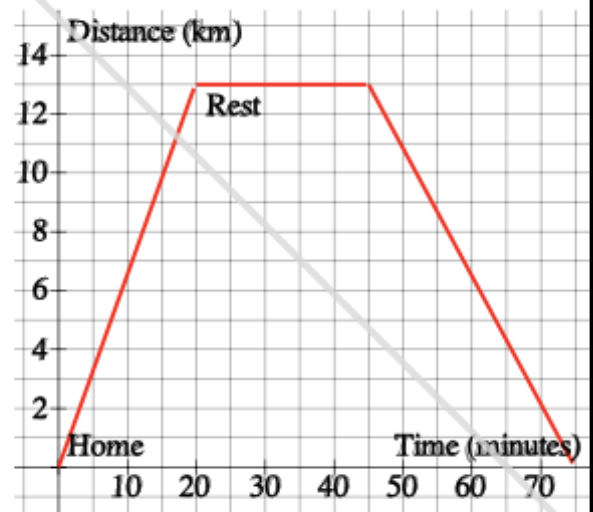


2) Hazel went on a cycle ride. The travel graph shows Hazel's distance from home on this cycle ride.

Find

- how far Hazel cycled after 10 minutes?
- how long she took a rest?
- how far she cycled in total on her ride?

Leave answers to nearest whole number where necessary.

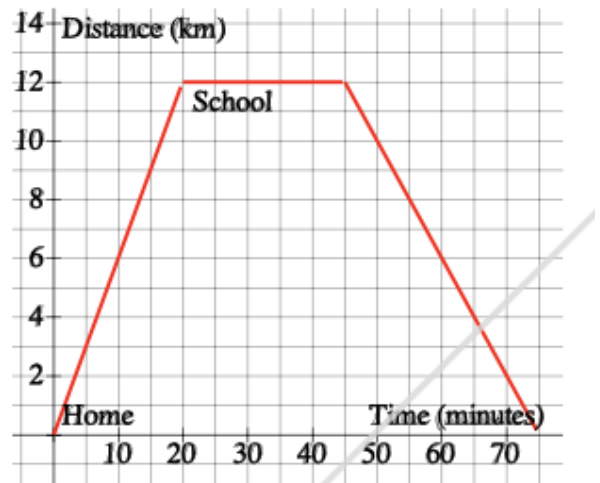


3) The travel graph below shows Cody's journey from his home to his school and back.

Find

- the distance to his school.
- the speed for the first 20 minutes of his journey.
- the speed on his journey home.

Leave answers to nearest whole number where necessary.



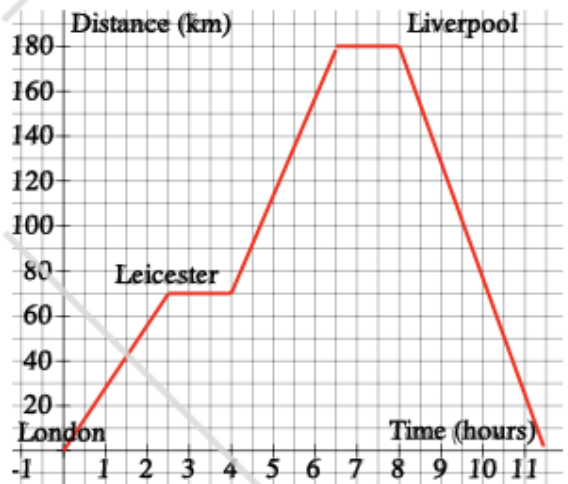
[1]

4) The distance-time graph below shows the journey a business man made from London to Liverpool via Leicester and the direct return journey back to London.

Find

- the distance to Leicester.
- the time he spent in Leicester.
- the speed he travelled from Leicester to Liverpool.
- his average speed over the whole journey.

Leave answers to nearest whole number where necessary.

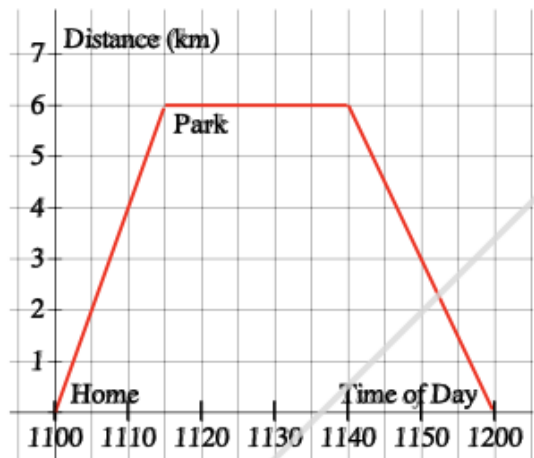


[1]

5) Finn cycled from his home to the park where he took a rest. He then cycled back home. Below is a distance-time graph for Finn's complete journey.

Find

- the time he arrived at the park.
- the distance to the park.
- how long he rested at the park.

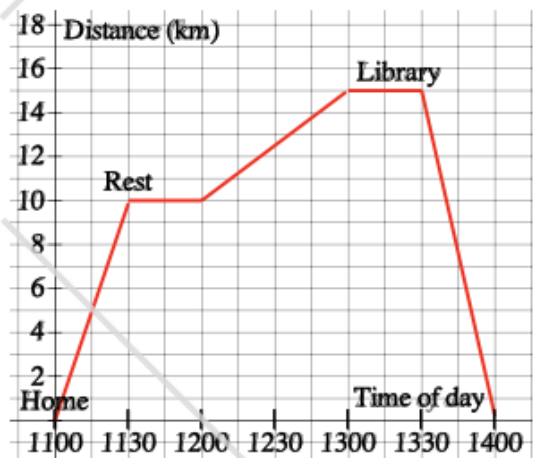


[1]

6) Here is a travel graph of Reece's journey from his house to the library and back to his house.

- How far is Reece from his house at 1130?
- At what time did Reece arrive at the library?
- How long did Reece spend at the library?
- At what time did Reece arrive back at his house?

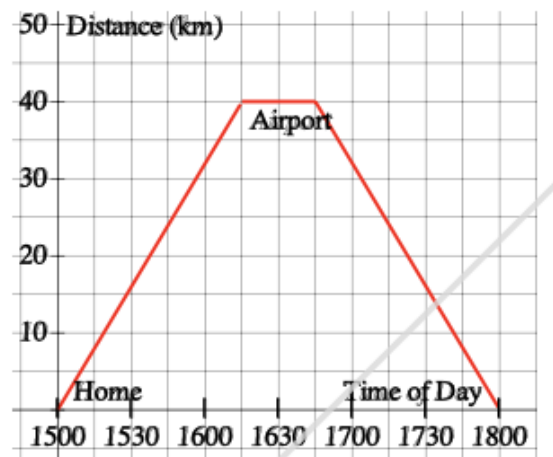
Leave answers to nearest whole number where necessary.



[1]

7) Beatrice drove from her home to the airport to collect her parents. She then drove home. Here is the distance-time graph for Beatrice's complete journey.

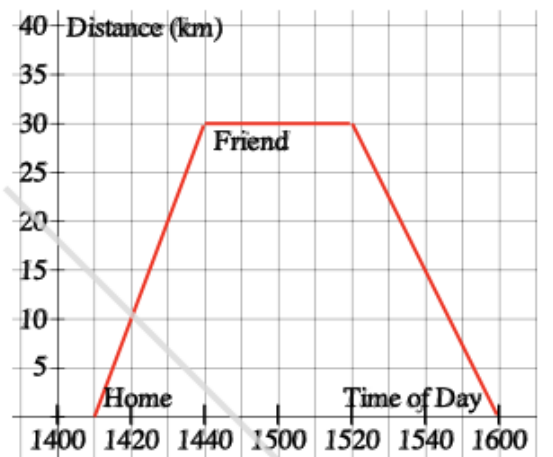
- What is the distance to the airport?
- For how many minutes did Beatrice wait at the airport?
- Work out Beatrice's average speed for the journey home in km/h.



[1]

8) Kieran travelled 30 km from his home to his friend's house. Kieran then spent some time at his friend's house before returning home. Here is the travel graph for Kieran's journey.

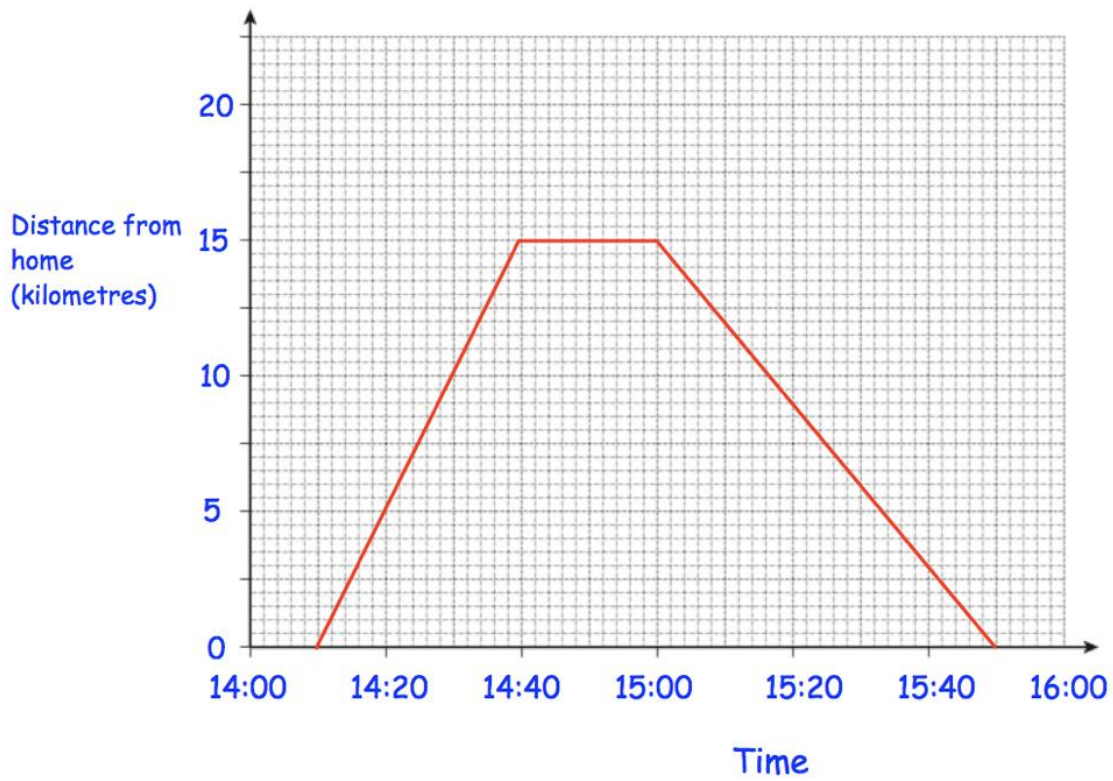
- What time did Kieran leave his home?
- For how many minutes did Kieran spend at his friend's house?
- Work out Kieran's average speed for the journey home in km/h.



[1]

3. Joseph travelled from his home to his friend's house 15 km away. Joseph stayed for some time and then returns home.

Here is the distance-time graph



- (a) At what time did Joseph leave home?

.....
(1)

- (b) How far was Joseph from home at 14:30?

.....km
(1)

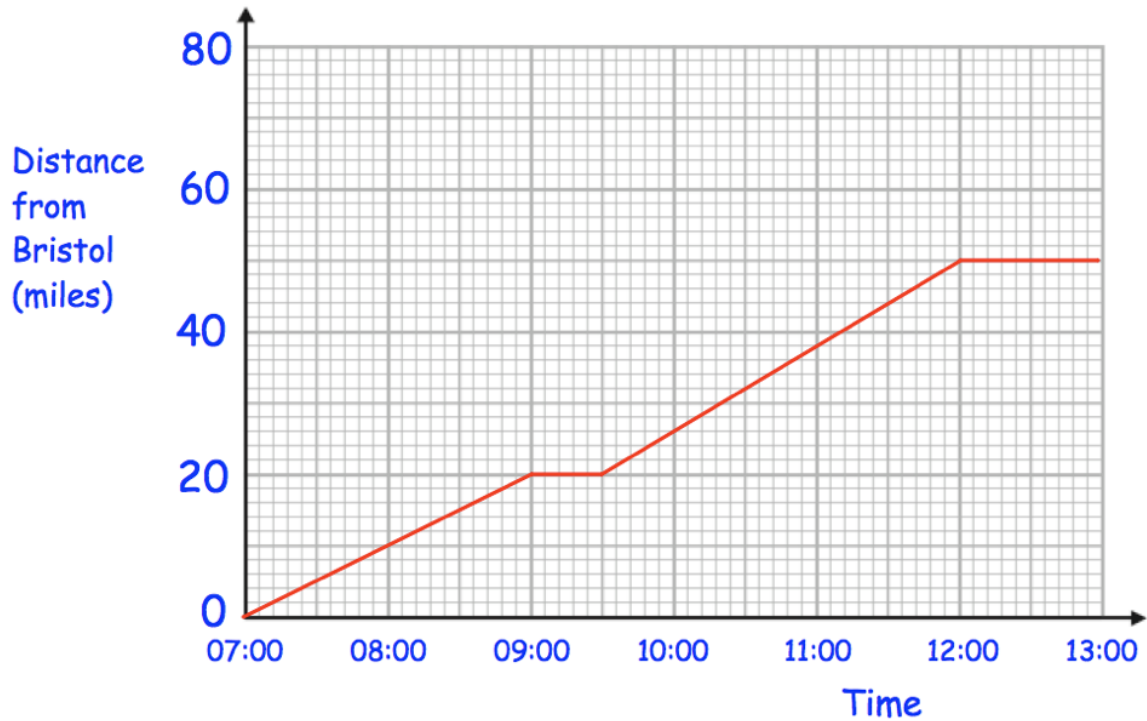
- (c) How long did Joseph spend at his friend's house?

.....minutes
(1)

- (d) How far did Joseph travel in total?

.....km
(1)

4. Anne cycles from Bristol to Salisbury.
The diagram shows the distance-time graph of her journey.



- (a) How far from Bristol is Anne at 08:00?

.....miles
(1)

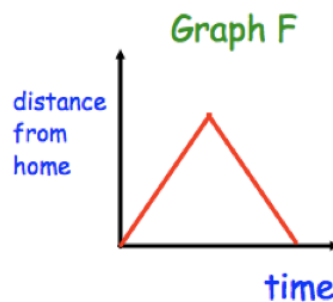
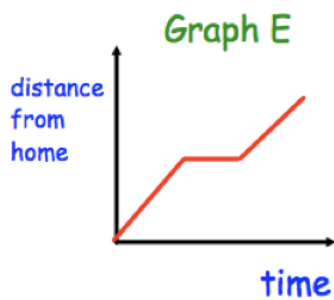
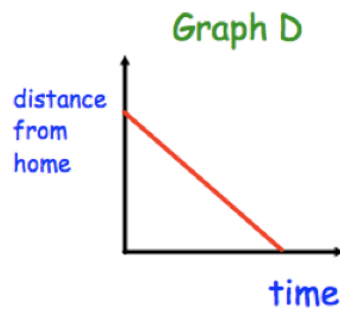
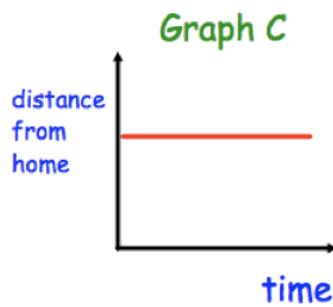
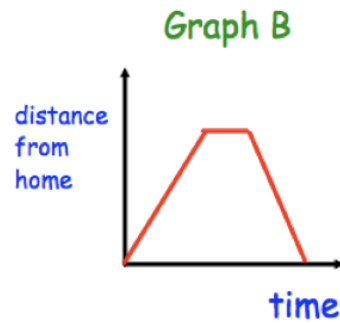
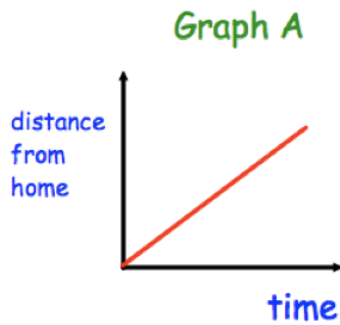
- (b) Describe what is happening between 09:00 and 09:30

.....
(1)

- (c) Work out Anne's speed for the first two hours of her journey

.....miles per hour
(2)

8. Shown below are six distance-time graphs



Each sentence in the table describes one of the graphs.
Write the letter of the correct graph next to each sentence.

Mr.Jones travels to work and immediately returns	F
Mr.Jones leaves work and travels home at a steady speed	
Mr.Jones leaves home and travels to work at a steady speed	
Mr.Jones stays at work	
Mr.Jones travels to work, stays there for some time and then returns home	
Mr.Jones leaves home and travels to work, stopping at the shop on the way	

(3)