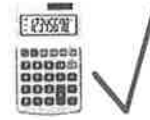


Exercise 2

Problems involving half/quarter hours



1. Find the unknown quantity in each of the following :-

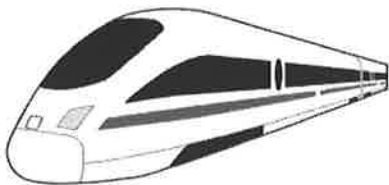
- | | | | |
|---|----------------------|----------------------------|------------------------------|
| a | Distance = ? km | Speed = 40 km/hr | Time : $2\frac{1}{2}$ hours. |
| b | Distance = 900 miles | Speed = ? mph | Time : $1\frac{1}{2}$ hours. |
| c | Distance = 210 km | Speed = 60 km/hr | Time : ? hours. |
| d | Speed = 240 km/hr | Time = 3 hrs 30 mins | Distance = ? |
| e | Speed = 100 m/min | Time = $2\frac{1}{4}$ mins | Distance = ? |
| f | Speed = 72 km/hr | Distance = 18 km | Time = ? |

2. a A jogger took 1 hour and 15 minutes to cover 11.25 km.
What was the average speed in km/hr ?

b A boat takes 6 hours and 45 minutes at an average speed of 20 km/hr to travel from Port A to Port B.
What far is it from Port A to Port B ?



3.



A train leaves Ayton at 1500 hours and travels to Beeton 75 km away at 30 km/hr.
The train is due to arrive at Beeton at 1720.
Will it arrive on time ?

Exercise 3

Converting hrs & mins to Decimal Times



1. Change the following to decimals of an hour :-

- a 45 minutes b 24 minutes c 36 minutes d 27 minutes.

2. Change the following to decimals of a hour. Give your answer to two decimal places :-

- a 7 minutes b 40 minutes c 8 minutes d 124 minutes.

3. Change each time to decimal form :-

- a 2 hrs 33 mins b 1 hr 48 mins c 5 hrs 6 mins d 3 hrs 3 mins.

4. Calculate the unknown quantity in each of the following :-
- a Distance = ? km Speed = 80 km/hr Time : 2 hrs 45 mins.
 b Distance = 64 miles Speed = ? mph Time : 1 hr 36 mins.
 c Distance = 420 km Speed = 50 km/hr Time : ? hrs ? mins .
5. The distance between two towns Hurley and Burley is 48 kilometres. Gerry drives a truck from Hurley to Burley at a speed of 30 km/hr. On the return trip he increases his speed by 6 km/hr. How much faster, in minutes and seconds, was the return trip ?



Exercise 4

Converting Decimal Times to Hrs & Mins



1. Change the calculator displays (shown in hours) to hours and minutes :-



2. Change each of the following to hours and minutes :-
 a 4.6 hours b 8.15 hours c 3.05 hours d 1.125 hours.
3. Calculate the time taken in hours and minutes for the following journeys :-
 a A rally car travelling 150 kilometres at 40 km/hr.
 b A marathon runner (26 miles) at a speed of 12 mph.
 c A speed boat at 40 km/hr travelling 36 kilometres.
4. Change each of the following speeds to km/hr :-
 a 20 m/sec b 250 m/sec c 10.5 m/sec d 50 cm/min.
5. In a Marathon race, Dale had a finishing time of 3 hours and 25 mins. Alice had a finishing time of 3.4 hours. Una completed her race in $3\frac{3}{8}$ hours.
- a Between these three people, who came :-
 (i) first (ii) last ?
- b What was the time difference between :-
 (i) first and second (ii) first and last ?

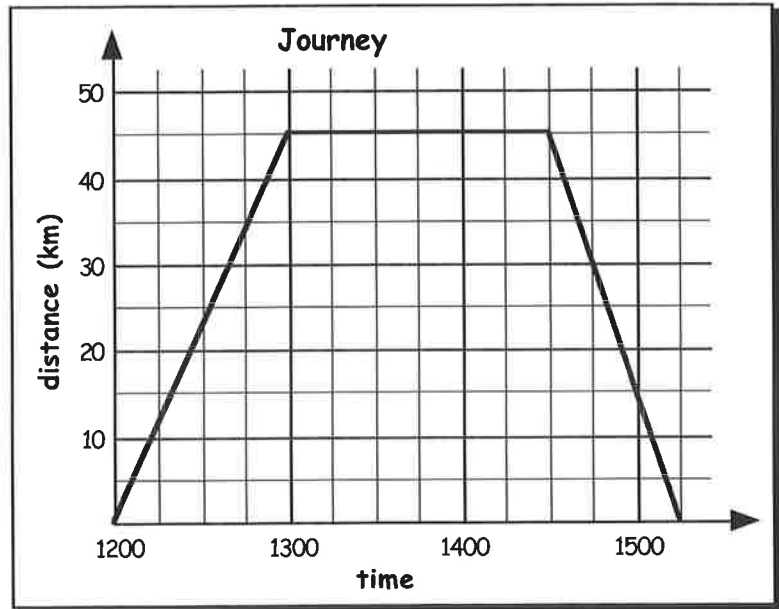


Exercise 5

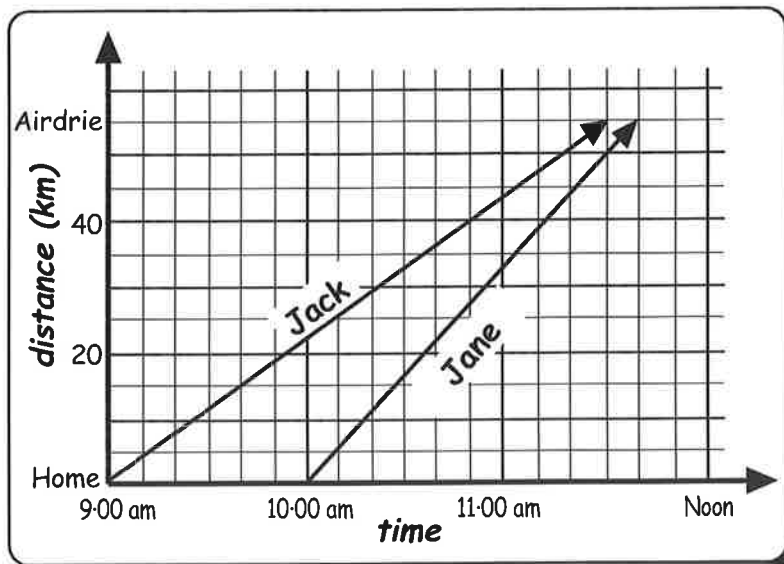
Time, Distance (& Speed) Graphs



1. The distance-time graph shows the journey Maggie made from her house to her favourite clothes shop and home again.
 - a How long did the drive to the shop take ?
 - b How far away is the shop from her house ?
 - c How long did she stay at the shop ?
 - d Calculate Maggie's speed :-
 - (i) going to the shop.
 - (ii) on the journey home.



2. On Saturday, Mr Jenkins and Mrs Jenkins both leave from home and drive to Airdrie.



- a At what time did each of the Jenkins leave their house ?
- b How far away is Airdrie from their house ?
- c Who arrived in Airdrie first and by how many minutes ?
- d Calculate the average speed of both.
- e (Difficult). Mr Jenkins left Airdrie at Noon and drove home at 25 km/hr. Mrs Jenkins drove home at 30 km/hr.

If they both arrived home at the same time, when must Mrs Jenkins have left Airdrie (to the nearest minute) ?

3. Billy set off at 11:00 am on Sunday and travelled 50 miles to Edinburgh at an average speed of 40 mph. He stopped for 45 minutes in Edinburgh, then drove home at an average speed of 50 mph.

Show Billy's journey on a Distance - Time graph.



4. Alan left home at ten past nine, driving at a speed of 60 km/hr, but found he had a puncture after just 20 km. It took him 40 minutes to get the puncture repaired and he then drove straight back home at 50 km/hr.

Show this journey on a Distance - Time graph.



Revisit - Review - Revise Exercise 15



1. Choose the appropriate formula and show all working in each of the following :-
- Pauline drove 300 kilometres at 60 km/hr. How long did she take ?
 - Arnie flew at 120 mph for 4 hours. How far had Arnie flown ?
 - Kevin took 4 hours to cycle 60 kilometres. How fast was he cycling ?

2. Change each of the following times to decimals :-

a 48 mins b 3 hrs 12 mins c 1 hr 42 mins.

3. Change each time to hours and minutes :-

a 2.25 hours b 0.45 hours c 5.05 hours.



4. a Fred takes three quarters of an hour to drive 42 km to work.

What is Fred's average speed ?

- b Jeri drives at 80 km/hr and takes 1 hour and 12 minutes to get to work.

How far does Jeri drive to work ?

- c Terry the tortoise takes 40 minutes to crawl 16 metres.
Sally Slug slithers 900 centimetres in 30 minutes.

How much faster is Terry than Sally ?



5. Last Sunday, Chelsea left home at Noon and cycled 20 kilometres to her office. She arrived at 1:20 pm and spent 10 minutes collecting the papers she had forgotten. She then cycled home and arrived at 2:30 pm.

- a Show all the given information on a distance-time graph.

- b Calculate the speed of her journey :- (i) to the office (ii) home.