$$Speed = \frac{Distance}{Time}$$

$$Time = \frac{Distance}{Speed}$$

$$Distance = Speed \times Time$$
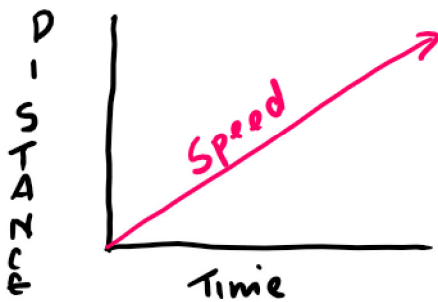
If the line is straight the speed is constant.

The steeper the line the greater the speed.

Eg1) A train leave Belfast at 8.40am and arrives in Dublin at 10.25. The distance of the journey is 168 km. Find the average speed of the train in km\hr.

Time
$$\begin{array}{r} 9 \quad 60 \\ 10.25 \\ - \ 8.40 \\ \hline \end{array}$$

$$\begin{array}{r} 9.85 \\ -8.40 \\ \hline 1.45 \end{array}$$

Speed $\frac{D}{T}$

$$\frac{168}{1.75hr} = 96 km/hr.$$

calculator key

[°999]

$$\begin{array}{r} 10° \ 25° \\ - \ 8° \ 40° \\ \hline 1° \ 45° \end{array}$$

1hr 45 mins.

↓

$$\frac{45}{60} = .75$$

Time in hours

$$\frac{}{1.75hr} = 96km/hr.$$

Time in hours
1.75.

OLD Pg 239 Q 1+2

NEW 288 Q 1+2

chapter 12 Ratio – time – speed

Section 12.2 Time and timetables

238

Example 1

A film begins at 20.45 and ends at 22.14. How long does it last?

Exercise 12.2

1. Perform the following additions and subtractions:

(i)	hr	min	(ii)	hr	min	(iii)	hr	min	(iv)	hr	min
	4	38		4	53		3	12		5	35
+	3	46	−	2	17	+	1	46	−	3	54

2. Express each of these in minutes:
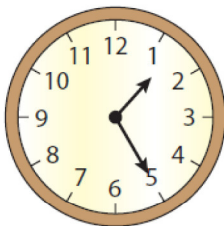
(i) 3 hours 24 min   (ii) 5 hours 36 min   (iii) 7 hours 54 min
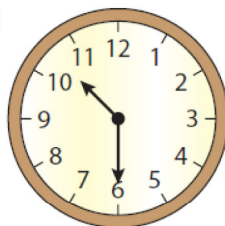
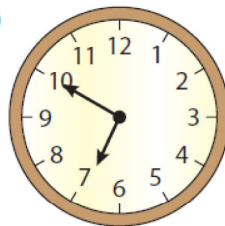**3.** Express each of these in 12-hour clock time:

(i)

a.m.
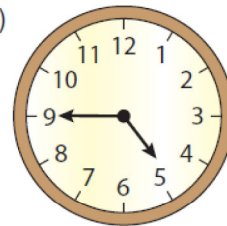
(ii)

p.m.

(iii)

a.m.

(iv)

p.m.

4. Write the following using a.m. or p.m. :

   (i) 11.40   (ii) 15.35   (iii) 12.20   (iv) 00.30   (v) 22.15

5. Write in 24-hour clock time:

   (i) 6 a.m.   (ii) 10.45 a.m.   (iii) 4 p.m.   (iv) 10.12 p.m.   (v) 12 noon

6. How many hours and minutes from

    (i) 9.45 a.m. to 2.15 p.m.   (ii) 8.45 p.m. to 3.50 a.m.

    (iii) 08.30 to 16.45   (iv) 06.42 to 15.10?
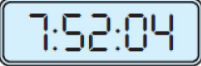
7. How many hours and minutes from
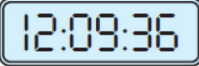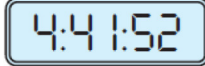
    (i) 10.35 to 14.45   (ii) 12.48 to 16.20   (iii) 10.36 to 18.45?
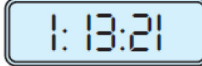
8. The times shown below give hours, minutes and seconds:

Match the times on the clocks to the digital times in the blue boxes:

A `7:52:04`   B `12:09:36`   C `4:41:52`   D `1:13:21`

(i)   (ii)   (iii)   (iv)
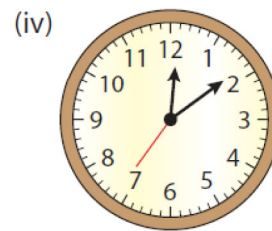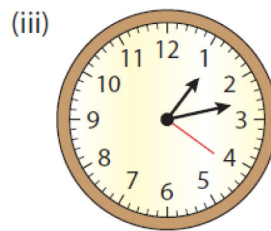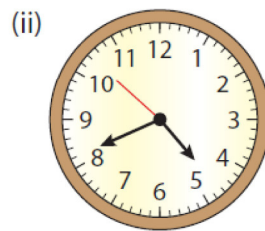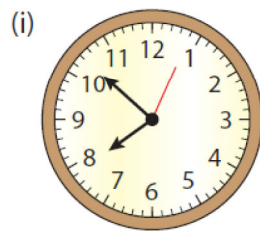
9. A woman works from 08.45 to 12.30 and from 13.45 to 17.15 for 5 days each week. Calculate how many hours she works in the week.

10. A play started at 8.20 p.m. and lasted 2hr 35 min. At what time did it finish?

11. A train leaves Tralee at 10.52 and arrives in Dublin at 14.40.
How long does the journey take?

12. A turkey needs to be cooked for dinner at 18.30.
The cooking time is 28 minutes per kg, plus an extra 20 minutes.
If the turkey weighs 8 kg, at what time should it be put in the oven?

13. The following is an extract from the Dublin to Westport train timetable:

		Train 1	Train 2
Dublin Heuston	dep.	08.30	17.10
Athlone	arr.	10.08	18.43
Athlone	dep.	10.10	18.45
Claremorris	arr.	11.25	20.08
Claremorris	dep.	11.44	20.11
Westport	arr.	12.05	20.38

  (i)   How long does it take Train 1 to go from Dublin to Westport?
 (ii)   For how long does Train 1 stop in Claremorris?
(iii)   How long does it take Train 2 to go from Athlone to Westport?
 (iv)   Which is the faster train from Dublin to Athlone?
  (v)   How long does it take Train 1 to go from Dublin to Claremorris?
 (vi)   For how long does Train 2 stop in Athlone?
(vii)   If I arrive at Heuston Station in Dublin at 07.52, how long do I have to wait for Train 1 to Westport?
(viii) Which is the faster train from Dublin to Westport?

14. A car journey began at 10.40 and finished at 13.25.
If the car used 6 litres of petrol per hour and each litre costs €1.65, calculate the cost of petrol for the journey.

Answers

Exercise 12.2

1. (i) 8 hr 24 min   (ii) 2 hr 36 min
    (iii) 4 hr 58 min   (iv) 1 hr 41 min
2. (i) 204 min   (ii) 336 min
    (iii) 474 min
3. (i) 1.25 am   (ii) 10.30 pm
    (iii) 6.50 am   (iv) 4.45 pm
4. (i) 11.40 am   (ii) 3.35 pm
    (iii) 12.20 pm   (iv) 12.30 am
    (v) 10.15 pm
5. (i) 06.00   (ii) 10.45
    (iii) 16.00   (iv) 22.12
    (v) 12.00

Answers

6.
   (i) 4 hr 30 min   (ii) 7 hr 5 min
   (iii) 8 hr 15 min   (iv) 8 hr 28 min

7.
   (i) 4 hr 10 min   (ii) 3 hr 32 min
   (iii) 8 hr 9 min

8. A and (i), B and (iv), C and (ii), D and (iii)

9. 36 hr 15 min   10. 10.55 pm

11. 3 hr 48 min   12. 14.26

13.
   (i) 3 hr 35 min   (ii) 19 min
   (iii) 1 hr 53 min   (iv) Train 2
   (v) 2 hr 55 min   (vi) 2 min
   (vii) 38 min   (viii) Train 2

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