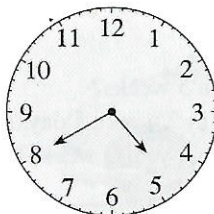


The hour and the minute hand tell the time.

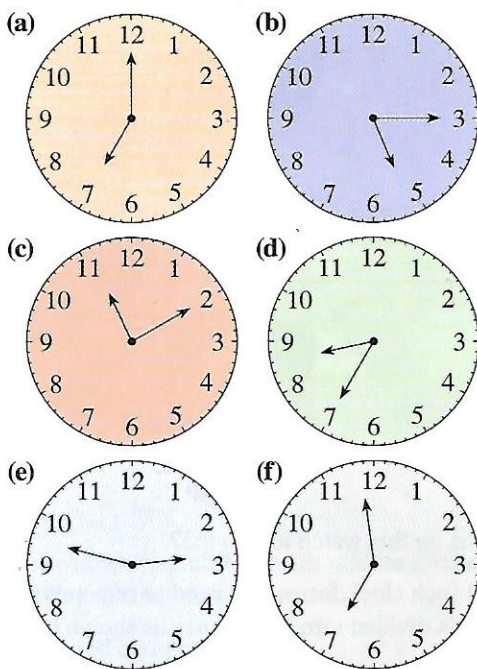
The minute hand points to the 12, that is 0 minutes past the hour. The hour hand points to the 4, so the time is 4:00.



The minute hand points to the 8, that is 40 minutes past the hour. The hour hand points between the 4 and the 5, so the time is 4:40.

Exercise 7M

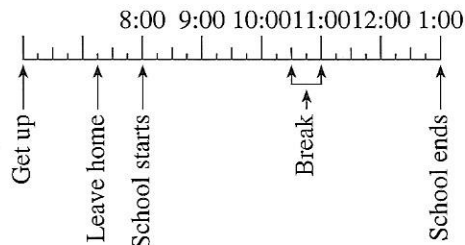
- 1 What time is shown on these six clocks?



- 2 Draw clock faces to show these times.

- (a) 3:00 (b) 3:30 (c) 6:40
(d) 8:45 (e) 11:05 (f) 1:16
(g) 3:54 (h) 2:37

- 3 The number line of times shows how Vincent spends his morning.



- (a) What time does he leave home?
(b) How long is break?
(c) How long does he take to get to school?
- 4 (a) How do you spend your school day?
(b) Write down all the things you do in a normal school day, from getting up in the morning to going to bed at night.
(c) Write down the times you begin each activity.
(d) Draw a time line as in Question 3 from 6 am to 9 pm showing your day.
- 5 (a) Draw a clock face to show the time you start school.
(b) Draw a clock face to show the time you leave school.
(c) How long is your school day?
- 6 Repeat Question 5 for:
(a) starting and finishing breakfast
(b) going to bed at night and getting up in the morning
(c) starting and finishing your homework.



Technology

Visit the website

www.woodlands-junior.kent.sch.uk/math

and try out some of the telling the time games.

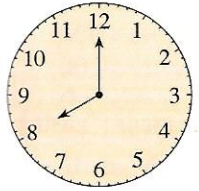


Activity

Recovery times

- Using a watch with a second hand or a stop clock, find how many times your pulse beats each minute.
- Run about 100 m as fast as you can.
- Check your pulse rate now.
- Check your pulse rate every minute until it gets back to what it was before you did your run.
- How long was this?

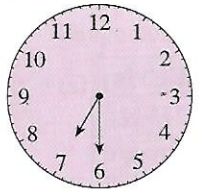
24-hour clock



8 o'clock in the morning is represented by 8 00 am on the 12-hour clock, 08:00 on the 24-hour clock.

This time is read as 'zero eight hundred hours'.

08:00



7.30 in the evening is represented by 7.30 pm on the 12-hour clock, 19:30 on the 24-hour clock.

This time is read as 'nineteen thirty'.

19:30

- The 24-hour clock uses all 24 hours in a day to give the time.
- The first two figures give the number of hours after midnight, and the last two figures give the number of minutes past the hour.

Example 5

- Write 8.15 pm in 24-hour clock time.
 - Write 02.54 in am/pm time.
- (a) 8 pm is $8 + 12 = 20$ hours after midnight so 8.15 pm is 20 15
- (b) 02:00 is 2 am
So 02:54 is 2.54 am

Exercise 7N

- Write in 24-hour clock time:
 - 4 am
 - 8.30 am
 - 11 am
 - 1 pm
 - 3.30 pm
 - 8.45 pm
 - 9.25 pm
 - 7.53 pm
 - 1.52 am
- Write in am/pm time:
 - 03:00
 - 05:00
 - 12:00
 - 15:00
 - 19:00
 - 23:00
 - 01:05
 - 04:25
 - 21:55

It is easier to find time intervals with the 24-hour clock than the 12-hour clock.

Example 6

- A football match kicked off at 15:45 and ended at 17:25. How long did the game last?
- How long is it from 21:30 on Tuesday to 03:15 on Wednesday?

(a)

$$\begin{array}{r} 6 \text{ } 60 \\ 17:25 \\ -15:45 \\ \hline 1:40 \end{array}$$

1 hour = 60 minutes



The game lasted 1 hr 40 min

(b)

$$\begin{array}{r} 3 \text{ } 60 \\ 24:00 \\ -21:30 \\ \hline 2:30 \end{array}$$



02:30 — time to midnight
+03:15 — time from midnight
 $\hline 05:45$

Time span = 5 hr 45 min

Exercise 7O

- How long is it from:
 - 06:00 to 07:15
 - 22:00 to 23:50
 - 09:20 to 13:40
 - 03:15 to 16:28
 - 12:25 to 15:10
 - 19:32 to 22:17
 - 18:40 to 07:15
 - 21:35 to 02:05
- BWIA flies from Kingston, Jamaica at 14:30 and arrives in Antigua at 18:10. How long is the flight?
- Write the times you begin each of today's classes in 24-hour clock time.

- 4 Look at the LIAT flight timetable below:

Dominica	Arr.	06:30	16:50
	Dep.	06:40	17:00
Martinique	Arr.	07:00	17:20
	Dep.	07:10	17:30
St Lucia	Arr.	07:35	17:55
	Dep.	07:45	18:05
Barbados	Arr.	08:25	18:45

- (a) What time does the first flight leave Dominica?
 (b) When does the second flight arrive in St Lucia?
 (c) What is the flight time from Martinique to St Lucia, ignoring stopover times?
 (d) What is the flight time from Dominica to Barbados?
 (e) Rewrite the timetable using the 12-hour clock.
- 5 The 'Late Show' begins at 22:45 and ends at 01:05. How long is the show?
- 6 Caribbean Airways has three flights daily leaving Part of Spain, Trinidad for New York (JFK). The timetable is shown below.

Flight No.	From	Dep.	To	Arr.
520	POS	00:40	JFK	05:50
522	POS	08:55	JFK	14:05
424	POS	17:30	JFK	22:40

- (a) Rewrite the timetable using the 12-hour clock.
 (b) What is the flight time for each flight?
- 7 Passengers should arrive $2\frac{1}{2}$ hours before travelling on international airline flights. What time should I arrive if my flight leaves at:
 (a) 15:30 (b) 06:20?
- 8 A cyclist started a journey at 08:15. She rode for 1 h 25 min, rested for 25 min and then rode for another 1 h 55 min. At what time did she reach her destination?



Technology

- Compare the 12-hour clock with the 24-hour clock by visiting the following website and looking at the Teachers Toolkit www.crickweb.co.uk/ks2numeracy.html
- Did you know that when it is 10.00 am in Trinidad it is 9.00 am in Kingston, Jamaica, 7.00 am in Los Angeles, and 3.00 pm in London? Visit www.timeanddate.com/worldclock to see how time changes around the world.

7.4 Temperature

Temperature is usually measured in degrees ($^{\circ}$) using the Celsius (C) temperature scale.

This scale is based on the freezing point of water (0°C) and the boiling point of water (100°C).

The SI unit of temperature is the Kelvin (K). It is related to the Celsius scale as shown:

	Celsius	Kelvin
Freezing point of water	0°C	273 K
Boiling point of water	100°C	373 K

Temperature is normally measured with a thermometer.



Special thermometers are used to measure the temperature of people.

Normal
just a fe

Exer

- 1 Ma
(a)
(b)
(c)
(d)
(e)
- 2 Res
Mal
tem
- 3 (a)
(b)
- 4 (a)
(b)
- 5 Use
diff
(a)
(b)
(c)