

M1 Maths

M1-2 Time 1

- reading and recording times to the nearest minute on digital and analogue clocks
- the order of the months and how many days in each
- calendars
- simple timetables

[Summary](#) [Learn](#) [Solve](#) [Revise](#) [Answers](#)

Summary

Reading digital clocks is easy – you just read the numbers shown.

Analogue clocks are more complicated. Basically, the hour hand (the short one) shows what hour it is or what hour it has passed. The minute hand (the longer one) shows how many minutes past the hour it is. Each number on the clock corresponds to 5 minutes.

The order of the months (with the number of days in each) is: January (31), February (28 or 29), March (31), April (30), May (31), June (30), July (31), August (31), September (30), October (31), November (30), December (31).

Calendars tend to be laid out in similar ways, one month at a time. Timetables can be laid out in many different ways depending what information they are showing. It is often necessary to look at a timetable for a while to work out how it works before reading it.

Learn

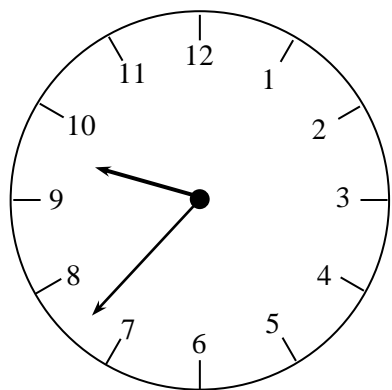
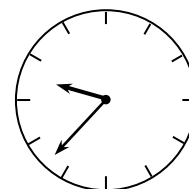
Telling the Time

Reading time on digital clocks is a no-brainer. If the clock says 12:14, then the time is 12:14.



Analogue clocks (ones with hands) take a bit more skill. An analogue clock has an hour hand, a minute hand and sometimes a second hand. The hour hand is short and you can't see it move. The minute hand is longer than the hour hand, but otherwise looks quite like it. It is hard to see it move, but if you look closely, you sometimes can. If there is a second hand it is usually thin and often a different colour or shape from the other two. It moves quite fast.

An analogue clock will have 12 marks evenly spaced around the edge.

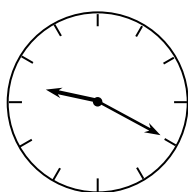


Sometimes these are marked with the numbers 1 to 12, like this:

But often they are not. So you have to memorise which mark corresponds to which number or count around. Clocks shown from here on will be without numbers.

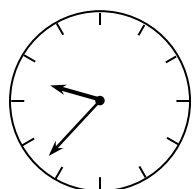
When telling the time look first at the hour hand. If it points to one of the 12 numbers, then that is the time. For example, if it points to the 3, then the time is 3 o'clock. If it points between two numbers, then it is some number of minutes past the earlier number. Remember that all the hands move clockwise (because it's a clock), so you can use that to tell which number the hour hand has come from and which number it is moving towards.

To tell how many minutes past, you look at the minute hand. The minute hand should be at the top (on the 12) when the time is on the hour (i.e. something o'clock). Let's say the hour hand has just passed the 9. When the minute hand reaches the 1, it is 9:05; when it reaches the 2, it is 9:10 etc. Each number indicates another 5 minutes, so you can count round in 5s to see how many minutes after 9 it is.



9:20

If the minute hand is between two numbers, e.g. between the 7 and the 8, then the time is between 9:35 and 9:40. You estimate how many minutes past by seeing where it is between the two numbers. If it is just past the 7, then it is 9:36; if it is nearly half way to the 8, it is 9:37; if it is just over half way to the 8, it is 9:38; if it is nearly to the 8 it is 9:39. Use the same sort of logic between the other numbers.



9:37

Other ways of saying the times

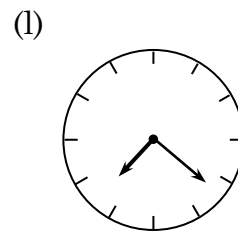
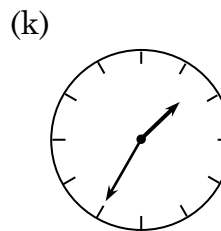
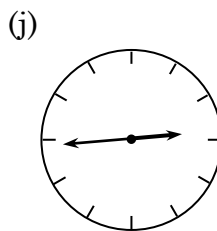
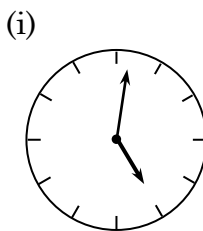
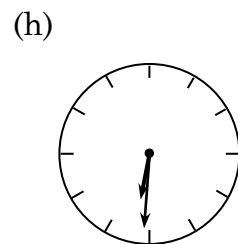
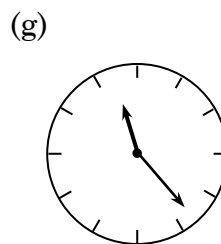
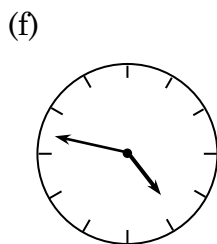
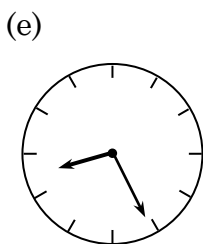
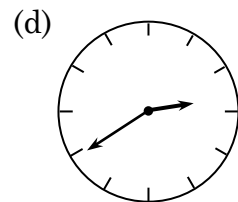
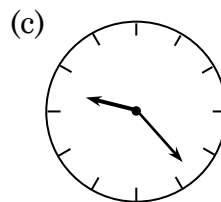
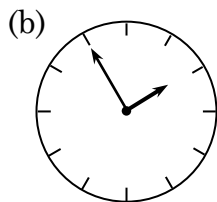
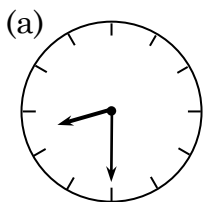
Sometimes 3:25 is sometimes called 25 minutes past 3 or just 25 past 3. Likewise for other numbers. This works up to 3:30. After that it is so many minutes to the next hour. So 3:35 is 25 minutes to 4; 5:48 is 12 minutes to 6.

15 minutes past is usually called 'a quarter past' because it is a quarter of an hour past. So 11:15 is called 'a quarter past 11'. 30 minutes past is called 'half past'. So 1:30 is 'half past 1'. 15 minutes to is called 'a quarter to'. So 6:45 is a quarter to 7.



Practice

Q1 What is the time to the nearest minute on each of these clocks?



Q2 Draw analogue clocks showing the following times:

- (a) 4:30 (b) 7:55 (c) 10.21 (d) 1:18 (e) 6:37 (f) 12:23

Q3 Write these times in digital form

- (a) 12 minutes past 2
(b) 20 past 4
(c) 25 to 10
(d) half past 1
(e) a quarter past 12
(f) a quarter to 2

Months

The following is the order of the months and the number of days in each.

January	31
February	28 (29 in a leap year)
March	31
April	30
May	31
June	30
July	31
August	31
September	30
October	31
November	30
December	31

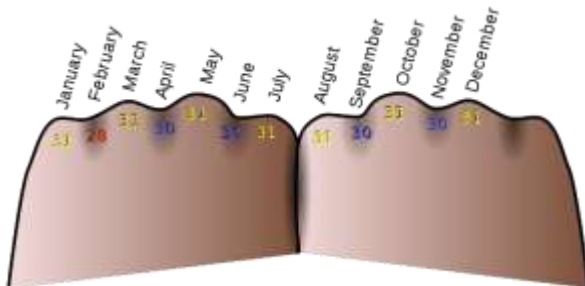
Remember that there are 4 months with just 30 days. Many people remember a rhyme to help them remember which ones. The rhyme starts:

Thirty days have September, April, June and November.

There is more to the rhyme, but that's all you need to know – as long as you remember February has only 28, with one extra each leap year. In general, years which are divisible by 4 are leap years, e.g. 2016, 2020, 2024, 2028, 2032 ... etc. These are also the Olympic years.



Another way to remember which months have how many days is the knuckle method. Put your two fists together like this.



Picture from Wikipedia.com

The knuckles stick up and are the months with more days; the valleys between the knuckles stick down and are the months with fewer days.

Practice

- Q4 Write the first line of the rhyme for remembering the number of days in each month.
- Q5 Write the sequence of the months and the number of days in each.
- Q6 How many days in February 2050?

Calendars

A calendar usually has a table for each month. All 12 months might be on one page or they might all have their own page. The table for each month has the days of the week across the top and the dates in the boxes. Here is an example:

APRIL 2004						
S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	

Note that the week usually starts with Sunday, though on some calendars it starts with Monday. It is good to look at a few calendars to see the different types.

You can use the calendar to see what day of the week a certain date is or what date it will be on a certain day of the week.

Calendars can have other information marked on them. For instance the days that are school holidays might be shaded or things might be written below the date number. The person using the calendar can write things on it too to remind them of events like birthdays, dates that assignments are due etc.

Practice

- Q7 Use the calendar above to find
- what day of the week is 13th April 2004
 - the date on the second Saturday of April 2004
 - the number of Thursdays in April 2004

Timetables

A timetable is a table which shows when things happen.

Every timetable is organised differently. When reading one, it is often necessary to look at it for a while to figure out how it works. Likewise, when making a timetable, there are lots of possible ways to lay it out. Care should be taken to choose a layout which makes it easy to understand and to read.

A student's lesson timetable might look like this:

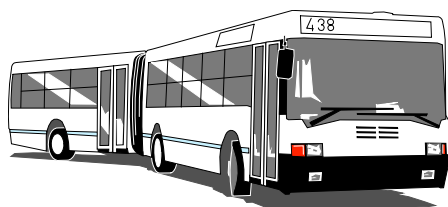
	M	T	W	Th	F
8:30-8:45	Form	Form	Form	Form	Form
8:45-10:00	Maths	Japanese	History	English	Rocket Science
10:30-11:40	English	English	Maths	Music	Maths
12:20-1:20	Phys. Ed.	Manual Arts	English	RE	Japanese
1:50-3:10	History	Rocket Science	Art	Phys. Ed.	Party

Practice

- Q8 Look at the lesson timetable
- How many maths lessons are there each week?
 - On what days does the student have Japanese?
 - How long is morning form?
 - What time does the first break start and finish?
 - How long is second break?

Part of a bus timetable might look like this:

Queen St, Brisbane	6:35	7:05	7:35	7:50	8:05
Garden City, Mt Gravatt	6:53	7:23	7:53	8:08	8:23
Springwood Mall	7:02	7:32	8:02	8:17	8:31
Hyperdome, Loganholme	7:12	7:42	8:12	8:27	8:42
Main St, Beenleigh	7:25	7:55	8:25	8:40	8:55
Wenlock Garbage Tip	7:34	8:04	8:34	8:49	9:04



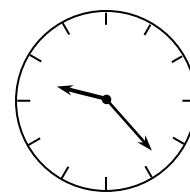
Practice

- Q9 Look at the bus timetable above, then answer these questions.
- If you catch the 6:35 from Queen Street, what time should you arrive at the Hyperdome?
 - If you need to get to Beenleigh by 8:50, what time will you need to get the bus from Garden City?
 - How long does the 8:23 from Garden City take to get to Beenleigh?
 - Which bus gets from Queen Street to Springwood the fastest?
 - What is the shortest time between two buses leaving Queen Street?

Solve

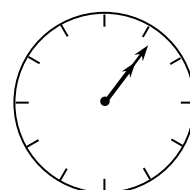
- Q51 Without looking at a clock, draw a picture of an analogue clock with numbers, showing 4:52

- Q52 You see this clock, then realise that it is a reflection in a mirror. What is the time?



- Q53 How many times a day does the minute hand go round?

- Q54 At roughly what time after midday is the minute hand first directly on top of the hour hand (as in the lower picture)?



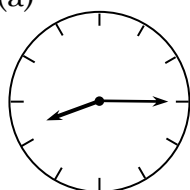
- Q55 How many times a day is the minute hand directly on top of the hour hand?

Revise

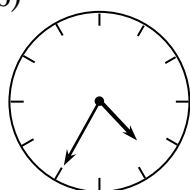
Revision Set 1

- Q61 What is the time to the nearest minute on each of these analogue clocks?

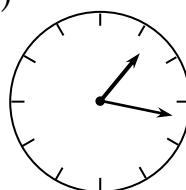
(a)



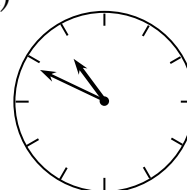
(b)



(c)



(d)



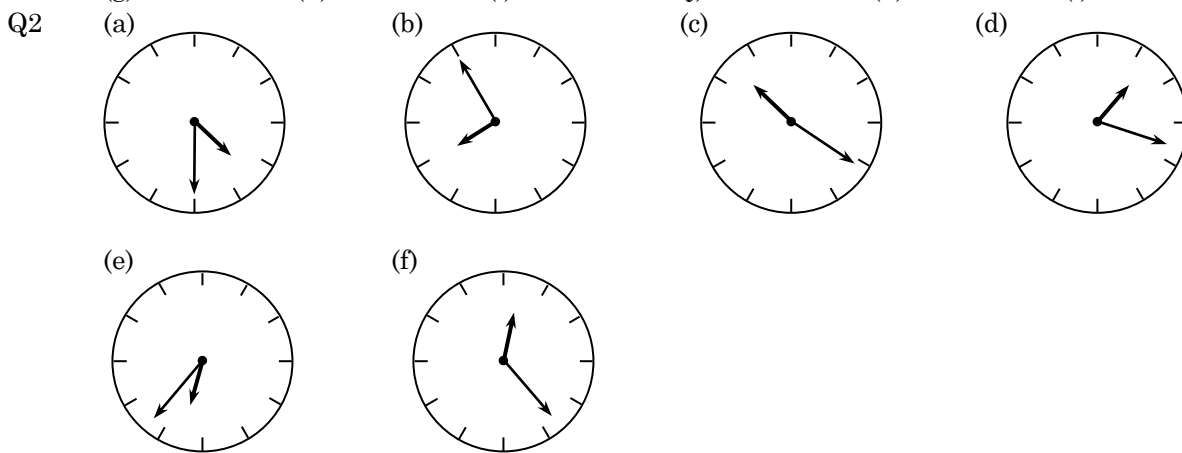
- Q62 Write the months in order along with the number of days in each.

- Q63 How many days in February 2072?

- Q64 Use the calendar in the Learn section to answer these questions:
- (a) What day of the week was April 25 2004?
 (b) What date was the last Friday in April 2004?
- Q65 Use the lesson timetable in the Learn section to answer these questions:
- (a) What day and time does the first Rocket Science lesson begin?
 (b) How long is the first Rocket Science lesson?
 (c) When does the third break end?
- Q66 Use the bus timetable in the Learn section to answer these questions
- (a) If you arrived at Garden City bus stop at 7:25 and caught the next bus to Beenleigh, what time would you arrive in Beenleigh?
 (b) Which bus would you have to catch from Queen Street to get to Springwood by 8:15?

Answers

- Q1 (a) 8:30 (b) 1:55 (c) 9:23 (d) 2:40 (e) 8:26 (f) 4:47
 (g) 11:23 (h) 6:31 (i) 5:02 (j) 2:44 (k) 1:35 (l) 7:22



- Q3 (a) 2:12 (b) 4:20 (c) 9:35 (d) 1:30 (e) 12:15 (f) 1:45

Q4 Thirty days have September, April, June and November.

Q5 January 31, February 28, March 31, April 30, May 31 June 30, July 31, August 31, September 30, October 31, November 30, December 31

Q6 28

Q7 (a) Tuesday (b) 10th (c) 5

Q8 (a) 3 (b) Tuesday and Friday (c) 15 min (d) 10:00, 10:30
 (e) 40 min

Q9 (a) 7:12 (b) 8:08 (c) 32 min (d) 8:05 (e) 15 min

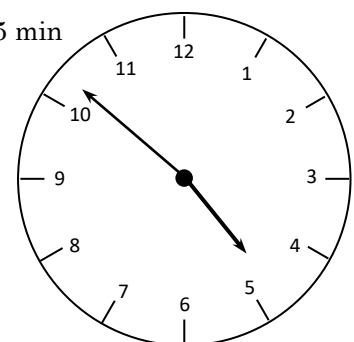
Q51 Picture to the right

Q52 2:37

Q53 24

Q54 1:06

Q55 22



Q61 (a) 8:15 (b) 4:35 (c) 1:17 (d) 10:49

- Q62 (a) January 31, February 28, March 31, April 30, May 31 June 30, July 31, August 31,
September 30, October 31, November 30, December 31
- Q63 29
- Q64 (a) Sunday (b) 30th
- Q65 (a) Tuesday 1:50 (b) 1 h 20 min (c) 1:50
- Q66 (a) 8:25 (b) 7:35