

8. Measuring Time



Telling the time : Revision

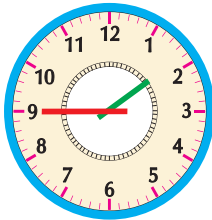


What is the time?

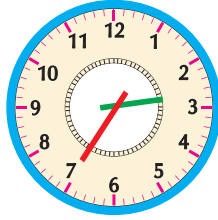
The hour hand is between 1 and 2
and the minute hand is at 6.

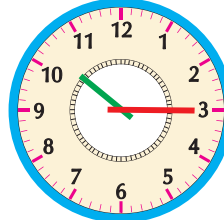
It means that the time is 30 minutes past 1.

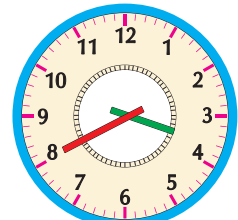
◆ Write the time shown by the clocks below in hours and minutes.

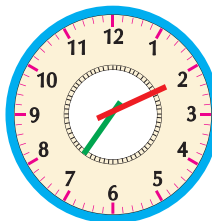


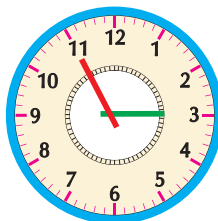
45 minutes past 1

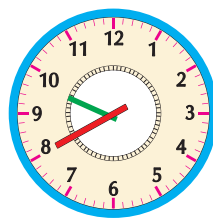


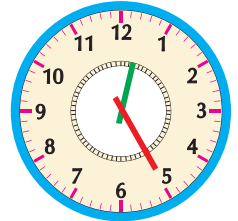




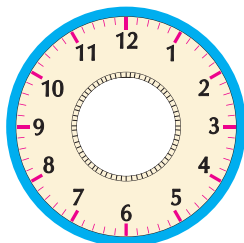




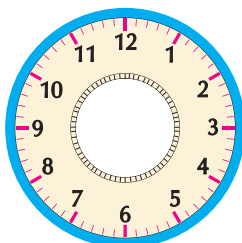




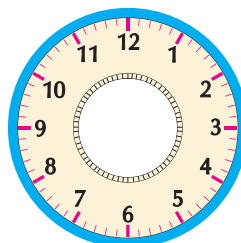
◆ Read the time given in the boxes below and draw the position of the clock hands.



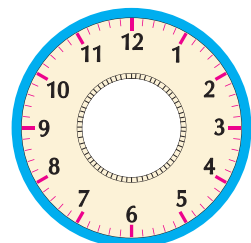
10 minutes past 5



15 minutes past 12



35 minutes past 8



25 minutes past 4

◆ Make a model of a clock. Arrange an exhibition of the models of clocks.

Using the terms 'a quarter past', 'half past' and 'a quarter to'

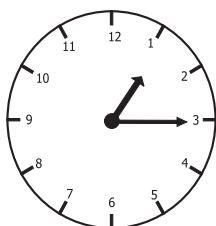
1 hour = 60 minutes

A quarter of an hour = 15 minutes

Half an hour = 30 minutes

Three quarters of an hour = 45 minutes

After 12 o'clock, we start measuring time again from 1.

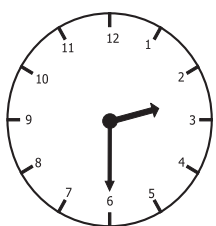


The hour hand is between 1 and 2 and the minute hand is on 3. It is 15 minutes past 1. One hour and a quarter hour has passed. It is a quarter past 1.



The hour hand is between 2 and 3 and the minute hand is on 3. It is 15 minutes past 2. Two hours and a quarter have passed. It is a quarter past 2.

In the same way, we also say 'quarter past 3', 'quarter past 4', ..., 'quarter past 12.'

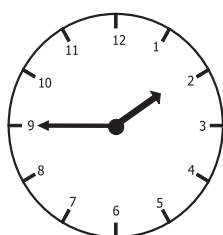


It is thirty minutes past 2. When two hours and a half hour have passed, we say it is half past 2. Thirty minutes past 1 is the same as half past 1.

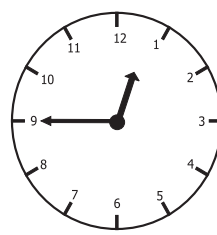


It is 30 minutes past 3 in the clock. 3 full hours and one half hour have passed. It is half past 3.

In the same way, we can say 'half past 4', 'half past 5', ..., 'half past 12.'



It is 45 minutes past 1. A quarter of an hour less than 2 can also be read as 'a quarter to 2'.



It is 45 minutes past 12. This can also be read as 'a quarter to 1'.

In the same way, we also say, 'a quarter to 3', 'a quarter to 4', ..., 'a quarter to 12'.

Exercise

Fill in the blanks.

(1) Quarter past 3 = 15 minutes past 3

(2) 15 minutes past 4 = 4.

(3) Quarter past 5 = minutes past

(4) 45 minutes past 6 = 7.

(5) Quarter to 10 = minutes past

(6) 30 minutes past 9 = 9.

The Calendar : Revision

8	August 2014		Calendar	Shravan-Bhadrapad Shaka 1936	
Sun	31	3	10	17	24
Mon		4	11	18	25
Tue		5	12	19	26
Wed		6	13	20	27
Thu		7	14	21	28
Fri	1	8	15	22	29
Sat	2	9	16	23	30

◆ Study this page of a calendar and answer the questions.

- (1) How many days does August have?
- (2) This year, on which day of the week is Independence Day?
- (3) How many Mondays does this month have?
- (4) Which dates fall on Thursdays?
- (5) In August, which days occur five times?
- (6) How many days pass before the same day of the week is repeated?

Measuring a period of time

- (1) Surekha went to her uncle's village in May. She went swimming every day from the 9th to the 25th of May. How many days did Surekha go swimming?

To find it out, let us count the days from the 9th to the 25th.

• • • • • • • • • • • • • • • •
 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25
 Surekha went swimming for 17 days.

- (2) John's school vacation started on the 5th of May and school started again on the 12th of June. How many days' vacation did John have?

The vacation started on the 5th of May. May has 31 days.

After the 4th of May up to the 31st, there are $31 - 4 = 27$ days.

School started on the 12th of June. It means that the vacation continued from the 1st of June to the 11th of June, for 11 days.

The period of the vacation was of $27 + 11 = 38$ days.

Exercise

Solve the following problems.

- (1) In a certain year, the Ganesh festival started on the 9th of September and ended on the 18th of September. For how many days was the festival celebrated?
- (2) Seema reached her hometown for Deepawali on the 12th of November and stayed there till the 1st of December. How many days did she spend there?
- (3) A school trip was from the 5th of December to the 10th of December. How many days was it?
- (4) Shyamrao had milk delivered to his home from the 5th of November to the 5th of December. How many days was milk delivered?

The Leap Year

2	February 2012	Calendar	Magh - Phalgun Shaka 1933
Sun		 5	12 19 26
Mon		6	13 20 27
Tue		7	14 21 28
Wed	1	8	15 22 29
Thu	2	9	16 23
Fri	3	 10	17 24
Sat	4	11	18 25

Suhas : Rajesh, we both have birthdays this month.

Rajesh : Yes, but my birthdate comes only once every four years.

Suhas : How is that possible?

Rajesh : My birthday is on the 29th of February. And, this date only comes once every four years!

Tai : What are you discussing?

Suhas : Tai, Rajesh says that the 29th of February only comes once in four years. How is that possible?

Tai : He's right. Usually, if the number denoting a year is divisible by four, then that year has 29 days in February. That year is called a leap year.

Suhas : It means that 2008 and 2012 were leap years and 2016 and 2020 will be leap years as well, correct?

Tai : Correct! But century years like 1900 and 2000 follow a slightly different rule. A century year is a leap year only if the number denoting it is divisible by 400.

Rajesh : That means 2000 was a leap year.

Suhas : And, 2100 is not divisible by 400, so it cannot be a leap year, right?

2	February 2014	Calendar	Magh Shaka 1935
Sun		2	9 16 23
Mon		3	10 17 24
Tue		4	11 18 25
Wed		5	12 19 26
Thu		6	13 20 27
Fri		7	14 21 28
Sat	1	8	15 22

Tai : Yes, 2100 and 2200 will not be leap years. However, 2400 will be a leap year.

Rajesh : So, then, leap years have one day more than other years !

Tai : Yes. A leap year has 366 days. Other years have 365 days.