

في الأرقام العشرية نقرأ

صفر قبل الفاصلة النونية

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نقرأ و ممكن لا ولكن بالمثل الأرقام

فوق

into. The number above the line is called the

numerator. It shows how many pieces of the

denominator we have taken.

We can also express fractions as decimals.

Decimals are based on the idea that any whole

number can be divided into 100 parts. So  $\frac{1}{2}$  is

50 of these parts. We write it as 0.50 and say

nought point five or nought point five zero. Note

that we do not say, for example, fifty after a

decimal point.

Fractions can also be expressed as

percentages. Like decimals, percentages are

also based on 100 but in this case we say  $\frac{1}{2}$  is

the same as 50 out of 100, or 50 per cent. If

you look closely, the % symbol for percentage looks like 100, written in a strange way.

**A Read the text and look at the diagram.**

In most technical subjects, like engineering, mathematics is very important. Mathematics is the study of numbers and spaces. In this unit we look at numbers. We will look at spaces in Unit 5.

5 There are two main kinds of numbers - (whole numbers) and fractions. Whole numbers are numbers like 1, 2, 3. We can also write whole numbers as decimals; for example, 1.0, 2.0, 3.0.

Fractions are numbers between whole numbers;

10 for example, the numbers between 1 and 2. We can express them as common fractions. With

common fractions, we have a number, then a line, then another number, like  $\frac{1}{4}$  (a quarter),

$\frac{1}{2}$  (a half),  $\frac{3}{4}$  (three-quarters). The number below

15 the line is called the denominator. It shows how many pieces we are dividing the whole number

يرينا إلى كم قطعة قسمنا العدد الصحيح

Common fractions	Decimal fractions	Percentages	Words
$\frac{1}{4}$	0.25	25%	a quarter
$\frac{1}{2}$	0.50	50%	a half
$\frac{1}{3}$	0.333	33.3%	a third
$\frac{3}{4}$	0.75	75%	three-quarters
$\frac{2}{3}$	0.666	66.7%	two-thirds
$\frac{1}{5}$	0.20	20%	a fifth
$\frac{1}{10}$	0.10	10%	a tenth
$\frac{2}{5}$	0.40	40%	two-fifths
$\frac{1}{20}$	0.05	5%	a twentieth

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Complete each sentence with a suitable word or number.

- The symbol  $\frac{3}{4}$  is a common Fractions.
- 0.25 is a decimal fraction.
- The symbol % means percent.
- In the fraction  $\frac{1}{2}$ , the number 1 is the numerator.
- In the fraction  $\frac{1}{4}$ , the number 4 is the denominator.
- The word for the fraction  $\frac{1}{3}$  is a third.
- The common fraction  $\frac{1}{5}$  is the same as 20%.
- The decimal fraction 0.10 is the same as the common fraction  $\frac{1}{10}$ .

## Section 2: Reading

Read the text opposite. Choose the best answer in each case.

- In British English we can say the date 10/11 as:
  - tenth of eleventh.
  - November the tenth. العاشر من نوفمبر
  - the ten of the eleven.
  - tenth of eleven.
- Numbers like fourth, fifth and sixth are called:
  - simple numbers.
  - ordinals. أعداد الترتيب
  - cardinals.
  - ordinary.
- To change *thirty* into an ordinal number:
  - add *th*.
  - remove the *y* and add *th*.
  - remove the *y* and add *ith*.
  - remove the *y* and add *ieth*. تقلب الـ y إلى اء وضيفين
- The symbol for ordinals uses:
  - the last letter of the ordinal word.
  - the last two letters of the ordinal word.
  - the first letter of the ordinal word.
  - the first and last letter of the ordinal word.

رمز أعداد الترتيب هو استقام آخر  
مرفق من العدد المرتب.

# Cardinals

and

# Ordinals

الأعداد الترتيبية

**How do you say these numbers: 10, 11?**

**What about when they are part of a date: 10/11/2005?**

y → ie + th  
t → + h  
Five → Fi f e th

In the first case we say ten, eleven, but in the second case we say the date as November the tenth because we are thinking of the days in order. When we put things in order, we use special number words in English called 'ordinals'.

Most ordinals are almost the same words as the cardinal numbers. We just add th to the cardinal number to make the ordinal. For example, four becomes fourth, six becomes sixth.

However, there are a few spelling changes. Be careful with five, which becomes fifth. Don't forget that eight only has one t in the ordinal form (eighth). Nine loses an e (ninth).

Remember also that numbers ending in y lose the y and add ieth (twenty — twentieth).

When we write the date in British English, we don't always use a special symbol. So we write, for example, 10 November. But in mathematics there is a special symbol for an ordinal number. We use the extra th; for example, 5th. In printing,

th is often written as two very small letters above the line; for example, 5<sup>th</sup>.

Be careful with the first three ordinal numbers. They are different words from the cardinals. One, two, three become first, second, third. Like other ordinal numbers, we use the last

two letters of the ordinal words in the symbols, so we get

1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> or, in printing, 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup>.

ordinal numbers  
أخر حرفين من

Cardinal numbers		Ordinal numbers	
symbol	word	symbol	word
1	one	1 <sup>st</sup>	first
2	two	2 <sup>nd</sup>	second
3	three	3 <sup>rd</sup>	third
4	four	4 <sup>th</sup>	fourth
5	five	5 <sup>th</sup>	fifth
6	six	6 <sup>th</sup>	sixth
7	seven	7 <sup>th</sup>	seventh
8	eight	8 <sup>th</sup>	eighth
9	nine	9 <sup>th</sup>	ninth
10	ten	10 <sup>th</sup>	tenth
11	eleven	11 <sup>th</sup>	eleventh
12	twelve	12 <sup>th</sup>	twelfth
20	twenty	20 <sup>th</sup>	twentieth
21	twenty-one	21 <sup>st</sup>	twenty-first
22	twenty-two	22 <sup>nd</sup>	twenty-second
30	thirty	30 <sup>th</sup>	thirtieth

- Cover each column in turn. Try to remember the information in that column.
- Work in pairs. Practise saying cardinal and ordinal numbers out loud for your partner to write down.
- Write an ordinal number for each of these cardinal numbers.

a twenty-three 23<sup>rd</sup>  
 b thirty-one 31<sup>st</sup>  
 c forty-two 42<sup>nd</sup>  
 d fifty-three 53<sup>rd</sup>  
 e sixty 60<sup>th</sup>

- Write these numbers in words.

a 41<sup>st</sup> Forty-First  
 b 2<sup>nd</sup> second  
 c 70<sup>th</sup> seventieth  
 d 32 thirty two  
 e 77 seventy seven