PERCENTAGE

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Sale 20% Reductions

How to deal with Percentage problems

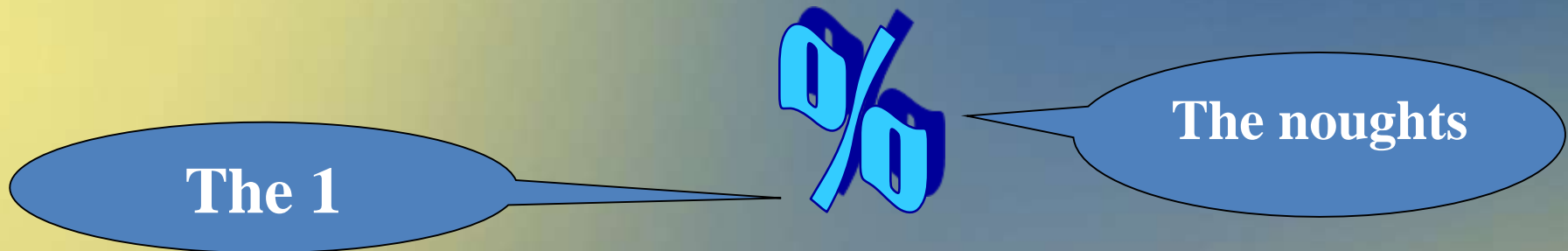# How to change percentages, into fractions and decimals

A percentage is a special fraction.

The % says, "per hundred."
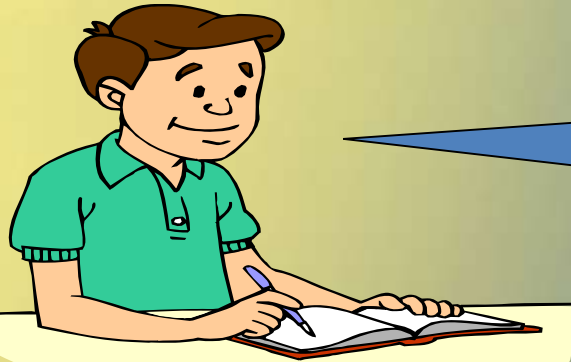
For example, 47%, is simply another way of writing

the fraction 47/100

You can almost see the 100 in the percentage sign

The 1

The noughts

Percentage	Fraction
7%	7/100
19%	19/100
83%	83/100
Etc.	

Copy and complete this chart

Percentage	Fraction	Percentage	Fraction
1. 23%	23/100	7. 80%	
2. 24%		8. 84%	
3. 55%		9. 12%	
4. 20%	1/5	10. 48%	
5. 17%		11. 71%	
6. 78%		12. 36%	

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To change a fraction into a decimal, you divide the bottom number (the denominator) into the top number (numerator). For example, to change ¾ into a decimal, you would divide the 3 by the 4.

¾

3 ÷ 4 = 0.75

Remember that a percentage is a fraction always has 100 as its denominator

So, to change a percentage into a decimal, you always divide by 100

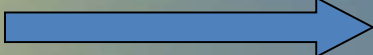For example, 35% as a fraction is 35/100 so to change this into a decimal, you divide 35 by 100

35%   0.35

÷ 100

To change decimal into a percentage

Decimal   →   Percentage

To change a decimal into a percentage, you X by 100

0.23   **X 100** →   23%

You Should Know

A a percentage is a special fraction.

23% = 23/100

Decimal to
a
percentage

X 100

Percentage to
a decimal

÷ 100

?

Copy and complete this chart

Percentage	Decimal	Decimal	Percentage
1. 27%		7. 0.87	
2. 2%		8. 0.08	
3. 55%		9. 0.42	
4. 5%		10. 0.04	
5. 17%		11. 0.71	
6. 98%		12. 0.07	

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Finding one quantity as a percentage of another quantity

Science 23/32

Jill obtained a score of 23 out of 32 in a science test. She wants to know what this will be as a percentage?

To do this, you

- Write the result as a fraction 23/32

- 4. 72%

- Change the fraction into a decimal (23 ÷ 32 = 0.71875)

- Change the decimal into a % (0.71875 X 100 = 71.9%)

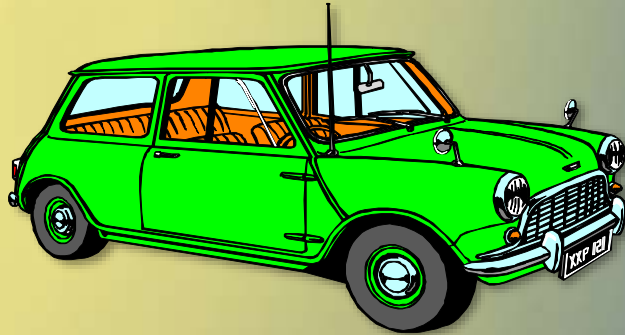**There are lots of similar problems and all of these can be tackled in the same way**

1. Write the quantities as a fraction

> **The quantity that you want as a %**

23/32

> **The total quantity**

2. Change the fraction into a decimal (23 ÷ 32 = 0.71875). It's probably a good idea to round off to 2 decimal places.

3. Change the decimal into a % (0.72 X 100 =72%)

4. So, 23 is 72% of 32

Car Par Survey	
Colour	Frequency
Green	2
Silver	4
Black	5

What percentage of the cars are green?

Total is 11 ➡ Want 2/11 as a percentage

➡ Change 2/11 into a decimal = 0.1818

(round off to 2 d,p. ➡ Change 0.18 into a %

(0.18 X 100 = 18%) Answer 18%

Try these:

1 Work out your percentage if you got 12 out of 25

2 Work out your percentage if you got 15 out of 25

3 Work out your percentage if you got 17 out of 20

4 Work out your percentage if you got 19 out of 24

5 Work out your percentage if you got 17 out of 31

6 A player scores 3 times out of 6 shots. What is their score percentage

7 A player scores 4 times out of 10 shots. What is their score percentage

8 A player scores 44 times out of 69 shots. What is their score percentage

9 Work out 12.5 out of 26 as a percentage

10 Calculate the score percentage if out of 15 shots 12 are successful

The 'Percentage of' problem

What is 12% 0f 34?

What is 13% of 56?

What is 78% of 57?

?

?

?

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To answer these questions

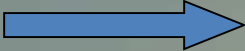**First** **:** Change the percentage into a decimal

Second: Change the word 'of' into a ❌ sign

Third **:** Workout

Example: What is 23% of 45

23% = 0.23 and 'of'   x

0.23 ❌ 45 = 10.35

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Finding Percentages of Different Numbers

Problem:

In a survey of 120 pupils it was found that 20% had personal stereos. How many pupils had personal stereos?

Change the percentage to a decimal, then multiply by the number of children.

20% = 0.20

0.20 times 120 = 24