Percentage and the unitary method

Sunday, 12 April 2020   10:49 am

⭐ By the end of the lesson I would hope that you have an understanding and be able to apply to questions the following concepts:

- Know what the term "unitary method" means,
- How to use the unitary method to calculate percentages

RECAP

This is the last lesson at a Year 8 level which will deal with Fractions, Decimals and Percentages.
This does not mean that you can now forget all the work!
We will now be doing areas of the course which will require you to use Fractions, Decimals and Percentages in real world contexts.

Question: How many of you go shopping?

Do you ever notice, on the shelves, that under the price of the products, they now place some very helpful information.

Unit pricing can tell you if that "deal" is actually a deal or not!
Many a time it's cheaper to buy two separate objects than one larger ...

Unit Pricing and the Unitary method

Unit means **one**. So, the unitary method has something to do with the number **one**.

It can be one dollar, one cent, one gram but it means one.

We like the number one as it's easy to multiply!

Once we have one unit of an object we can then use the information to find any amount of the object.

RECAP: Dividing a number by itself

Remember, any number divided by itself will always be one!

$$\frac{12}{12} = 1 \qquad \frac{10}{10} = 1$$

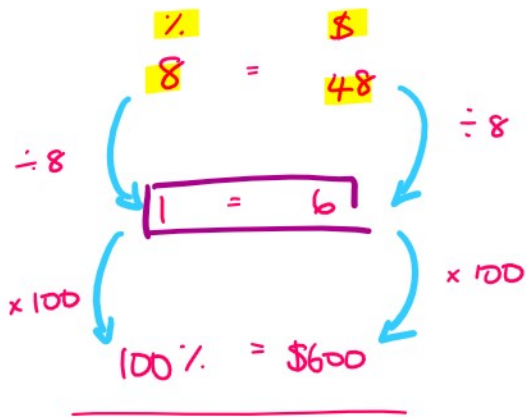$$\frac{6}{6} = 1 \qquad \frac{1234}{1234} = 1$$

$$\frac{6}{6} = 1 \qquad \frac{1234}{1234} = 1$$

Examples are always a great way to explain Maths!

Example
The following example is taken, with permission, from the Cambridge Essentials Year 8 Textbook

If 8% of an amount of money is $48, what is the full amount of money?

%   = $
8   =   48   ÷8
÷8
1   =   6
×100
×100
100%   = $600

100%

1% = $6

The idea is always to work out **one unit of something** and then use that to find an answer.
You will generally have to **divide** something to get to one and then multiply to get to the answer.

Remember, what you do to one side you must do to the other!

Example
The following example is taken, with permission, from the Cambridge Essentials Year 8 Textbook

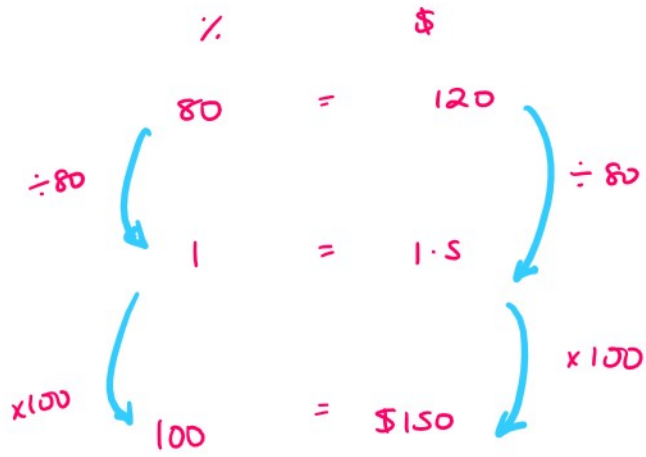If 11% of the food bill was $77, how much is 25% of the food bill?
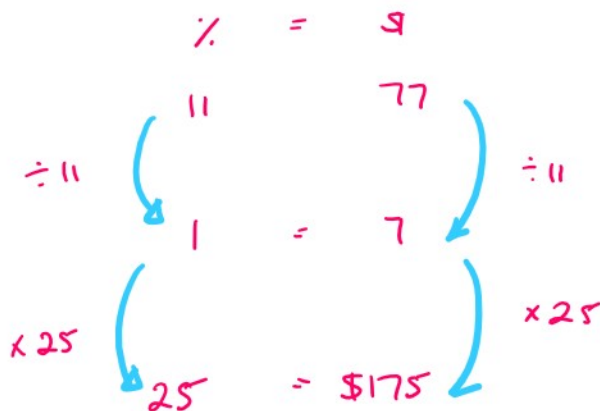
%   = $
11   77
÷11   ÷11
1   =   7
×25
×25
25   = $175

1% = $7

Example
The following example is taken, with permission, from the Cambridge Essentials Year 8 Textbook

A pair of shoes has been discounted by 20%. If the sale price is $120, what was the original price of the shoes?

$$100\% \downarrow 20\%$$
$$= 80\%$$

%	$
80	= 120
1	= 1.5
100	= $150

÷80 (on % side)   ÷80 (on $ side)

×100 (on % side)   ×100 (on $ side)

$$1\% = \$1.50$$