X is Y% of what?

Example

Today's share price for ABC Ltd is £6.25. This is a 5% reduction of yesterday's share price. What was yesterday's share price?

First, since today's share price is a 5% reduction on yesterday's, it is 95% of yesterday's price: 95% = £6.25

To find 100%, we need to calculate:
6.25 / 95 x 100 = £6.58

Example

It is estimated that there are now only 1200 specimens of a rare species living in the wild. If this estimate is a 4% increase on the 2010 estimate, how many specimens were estimated to be in the wild in 2010?

We have that 1200 is a 4% increase on the 2010 estimate. That is, it is 104% of the 2010 estimate   104% = 1200

To find 100% we need to calculate
1200 / 104 x 100 = 1153.84
We round this answer to 1154.

> *Speed Tip!*
>
> *1. On a calculator it can be easier and quicker to use the % button. For example, you could just do:*
> *1200 / 104% = 1153.84*
>
> *2. If you are not using a calculator, it is better to do some cancelling of the fraction first.*

Example

If a school has 3% of children absent, and 1067 children present, what is the total number of children enrolled at the school?

We are told that 3% of the children are absent. Therefore, 97% of the children are present. That is   97% = 1067
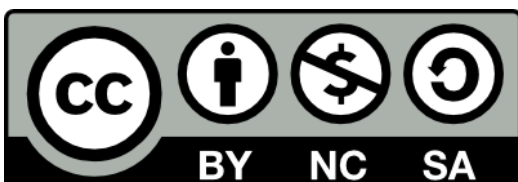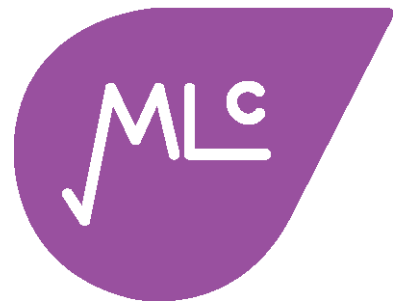
To find 100%, we need to calculate

1067/ 97% = 1100

Therefore, there are 1100 children enrolled at the school.

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Example

A bank pays 4.5% interest annually. If £64.50 was received in interest last year, what was the initial amount invested?

We have that 4.5% = £64.50

Then we have that 100% = 64.50 / 4.5% = £1433.33

Therefore, £1,433.33 was the initial amount invested.

Example

A salesperson receives 6.5% commission on total revenue. John earned £3,500 in commission last year. What was total revenue?

We have that 6.5% = £3,500

Then 100% = 3500 / 6.5% = £53,846.15

Example

If VAT is charged at 17.5%, and the VAT bill for a new car is £940, what is the full price of the car?

We know that 17.5% = £940

To calculate 100%, we must compute 940 / 17.5% = £5371.43

Therefore, the full price of the car is £5,371.43

Example

From past experience, a factory expects 2.02% of its products to be faulty. In May, 214 products were found to be faulty. What is the approximate number of items manufactured in May?

We have that 214 is expected to be 2.02% of the number of items manufactured in May. To work out this total number, we compute

214 / 2.02% = 10594.05

Therefore the approximate number of items manufactured in May is 10,594.

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