

ROUNDING

With decimal places

Look to the number after the decimal place you are rounding to

If it's 5 or greater your last number increases by 1

If it's under 5 then your last number stays the same

Eg. Round to 2 d.p (decimal places)

8.3282

your 2nd decimal place

↑ greater than 5
so 2 becomes 3

8.33

8.3214

2nd decimal place

↑ less than 5
so it stays at 2

8.32

7.51428 → 7.51 (2 d.p)

6.35289 → 6.353 (3 d.p)

With Significant figures

The same as with decimal places but including all the numbers

Eg. Round 8,321 to (3 sig fig) (significant figures)

3rd sig fig

↑ less than 5
so 2 stays as 2

= 8,320

Round 4.7381

3rd sig fig

↑ greater than 5
so 3 becomes 4

= 4.74

FRACTIONS \rightarrow DECIMALS \rightarrow PERCENTAGES

To Change Fractions \rightarrow Decimals

Remember $\frac{1}{10} \rightarrow 0.1$

$\frac{1}{100} \rightarrow 0.01$

Always get your fraction over $\frac{\quad}{10}$ or $\frac{\quad}{100}$

it/ $\frac{1}{5} \xrightarrow{\times 2} \frac{2}{10} = 0.2$

$\frac{1}{20} \xrightarrow{\times 5} \frac{5}{100} = 0.05$

Percentages \rightarrow Decimals

Remember 1% means $\frac{1}{100} = 0.01$

Simply divide your percentage by 100

$32\% \rightarrow \frac{32}{100} (32 \div 100) = 0.32$

$3\% \rightarrow \frac{3}{100} = 0.03$

Decimals \rightarrow Percentages

Simply $\times 100$

$0.46 \rightarrow 46\%$

$0.125 \rightarrow 12.5\%$

Decimals \rightarrow Fractions (don't forget to cancel down)

$0.46 \rightarrow \frac{46}{100} \rightarrow \frac{23}{50}$

PERCENTAGES

NON-CALCULATOR

When finding percentages without a calculator revert to finding 10%
10% ÷ by 10

10% of 380 → $380 \div 10 = 38$

To find another percentage use 10% first

20% of 230

① 10% of 230 = 23

② 20% means $10\% \times 2 \Rightarrow 23 \times 2 = 46$

15% of 260

① 10% of 260 = 26

② 5% of 260 = 13

add 10% to 5% = 39

CALCULATOR

When finding using a calculator convert to a DECIMAL first

28% of 42

$28\% \rightarrow \frac{28}{100} \rightarrow 0.28$

$0.28 \times 42 = 11.76$

4% of 56

$\Rightarrow 0.04 \times 56 = 2.24$

INCREASING an amount by a percentage

FIRST FIND **NEW PERCENTAGE**

+ as we increase

1. Increase 60 by 5%

New Percentage

$100\% + 5\% = 105\%$

∴ find 105% of 60

$1.05 \times 60 = 63$

DECREASING an amount by a percentage

Again first find **NEW PERCENTAGE**

- as we are decreasing

1. Decrease 24 by 20%

New Percentage

$100\% - 20\% = 80\%$

∴ find 80% of 24

$0.8 \times 24 = \pounds 19.20$