Proportional Reasoning – Knowledge Organiser

Objective
To see the link between fractions and ratio
Identify equivalent ratio and cancel a variety of ratios to their simplest form
To be able to divide a quantity into a given ratio, and also to find the whole when given just one part or the difference between the parts
To use the above skills to solve problems involving maps, 'best buy', speed

What is the ratio of ● to ▲?

15:20

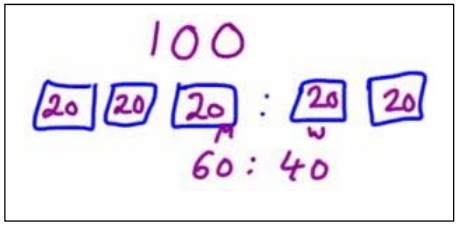
Key Facts:
1:2
2:4
3:6 are examples of equivalent ratios

1:2 is the simplest form of 3:6, or indeed of ½:1 or 0.05:0.1

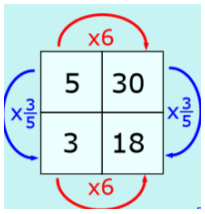
If the ratio of red balls to blue balls in a bag is 3:2 then 3/5 of the balls are red and 2/5 of them are blue.

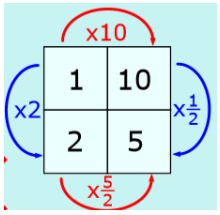
3cm on a 1:50,000 map becomes…
3cm : 150,000cm
which is 1,500m which is 1.5km

Molly and Wendy share £100 in the ratio of 3:2
This problem can be done ***visually***



What is, and what is not Direct Proportion





Key Concept Check: To see the difference between…

1) Luka is making squash using 2 parts cordial to 3 parts water. How much cordial does he need to make 100ml of squash?

2) Luka makes squash using 2 parts cordial to 3 parts water. He uses 100ml of cordial. How much water should he add?

Key words used in this unit:

Whole – All of something

Part – A part, a proportion, or fraction of the whole

Proportion – A share of something in comparison to the whole

Ratio – Compares part to part, not part to whole

Simplify – as in 'to simplify a ratio' - to re-write in simplest form

Proportional – Quantities are Directly Proportional if they maintain a constant ratio