

Ratios.

Simplify like fractions.

12 : 9 is the same as 4 : 3 (divide both numbers by 3)
20 : 16 is the same as 5 : 4 (keep halving or divide by 4)

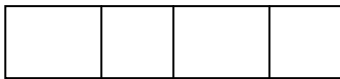
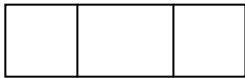
Calculating ratios

Using boxes

£480 is shared in the ratio 7 : 3 to Wadud and Nanu

KEEP THINGS IN ORDER

Wadud(7 boxes)



Nanu(3 boxes)



10 boxes altogether so £48 in each box

Altogether $7 \times 48 = \text{£}336$

Wadud gets £336

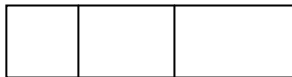
Altogether $3 \times 48 = \text{£}144$

and

Nanu gets £144

To mix a purple paint I need to use red and blue mixed together at a ratio 3:5 . If I have 27 litres of red how much blue do I need and how much purple paint will I have.

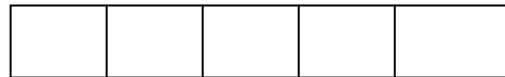
Red (3 boxes)



27litres

The answer beneath red is 27 so that is 9 in each box

Blue (5 boxes)



9 x 5 = 45liters

If there is 9 in each of the blue boxes then there is 9 x 5 litres needed.

Total amount of purple paint = 27 + 45 = 72litres.

Without boxes Share £27 to the ratio 5 : 4

1. Add the ratios together $5 : 4$ $5 + 4 = 9$
2. Divide the amount by this total $27 \div 9 = 3$
3. Multiply each ratio by this answer $5 \times 3 = 15$ and $4 \times 3 = 12$
4. These are your answers **£15** and **£12**

Proportion.

This is all about keeping things in the same relationship.

e.g if one sweet cost 10p then 2 sweets cost 20p and 5 sweets cost 50p

If 12 cakes need 200g of flour and 4 eggs
then 6 cakes need 100g of flour and 2 eggs.

Example

If 5kg of apples = £1.60 How much is 2kg?

5kg = £1.60 or 160p

1kg = $160 \div 5 = 32$ p **so** 2kg = $32 \times 2 = 64$ p

This is direct proportion as one value gets changes so does the other in the same way.

e.g The more you buy the more it costs or the less paint you have the smaller the area you can cover.

Indirect proportion the values change in the opposite direction.

e.g. the older the car the less it is worth.