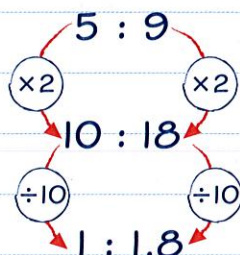


# Ratio

 A\*  
A  
B  
C  
D

Ratios are used to compare quantities.

You can find EQUIVALENT RATIOS by multiplying or dividing by the same number.



This equivalent ratio is in the form  $1 : n$ . This is useful for calculations.

## Simplest form

To write a ratio in its simplest form, find an equivalent ratio with the smallest possible whole number values.

Simplest form

5 : 1    10 : 9  
2 : 3 : 4

NOT simplest form

1 : 1.5 : 2    10 : 2  
1 : 0.9

## Worked example

 grade  
C

Three women won a total of £360  
They shared the money in the ratio 7 : 3 : 2  
Donna received the largest amount.  
Work out the amount Donna received.

$$7 + 3 + 2 = 12$$

$$\frac{\pounds 360}{12} = \pounds 30$$

$$\pounds 30 \times 7 = \pounds 210$$

Donna received £210.

1. Work out the total number of parts.
2. Work out the value of 1 part.
3. Work out 7 parts (largest part) for Donna.

## Worked example

 grade  
C

Jared is preparing the ingredients for a pizza.  
He uses cheese, topping and dough in the ratio 2 : 3 : 5  
He uses 70 grams of dough.  
How many grams of topping will Jared use?

$$\frac{70}{5} = 14$$

$$3 \times 14 \text{ g} = 42 \text{ g of topping}$$

cheese : topping : dough

2 : 3 : 5

? : ? : 70 g

5 parts = 70 g so 1 part = 14 g

Multiply by 3 to find the weight of topping used.

## Now try this

 grade  
C

1. Alex and Ben were given a total of £360  
They shared the money in the ratio 5 : 7  
Ben received more money than Alex.  
How much more? (2 marks)

First convert 0.5 kg into grams. Then work out how much crumble topping Tom needs to make.

Check it!

$$\text{weight of sugar} + \text{butter} + \text{flour} = \text{weight of crumble topping}$$

2. Tom is making plum crumble.

For the crumble topping, he uses sugar, butter and flour in the ratio 2 : 3 : 5

Tom uses 250 g of plums for every 400 g of crumble topping.

Tom has 0.5 kg of plums. He uses all of them.

Work out how much sugar, butter and flour he will need for the crumble topping. (4 marks)

 grade  
C

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