
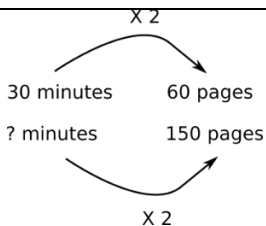


## Topic: Ratio

Topic/Skill	Definition/Tips	Example
1. Ratio	Ratio compares the size of <b>one part</b> to <b>another part</b> .  Written using the ':' symbol.	<b>3 : 1</b> 
2. Proportion	Proportion compares the size of <b>one part</b> to the size of the <b>whole</b> .  Usually written as a fraction.	In a class with 13 boys and 9 girls, the proportion of boys is $\frac{13}{22}$ and the proportion of girls is $\frac{9}{22}$
3. Simplifying Ratios	<b>Divide</b> all parts of the ratio by a <b>common factor</b> .	5 : 10 = 1 : 2 (divide both by 5) 14 : 21 = 2 : 3 (divide both by 7)
4. Ratios in the form 1 : n or n : 1	<b>Divide</b> both parts of the ratio by one of the numbers to make <b>one part equal 1</b> .	$5 : 7 = 1 : \frac{7}{5}$ in the form 1 : n $5 : 7 = \frac{5}{7} : 1$ in the form n : 1
5. Sharing in a Ratio	<b>1. Add</b> the total parts of the ratio. <b>2. Divide</b> the amount to be shared by this value to find the value of one part. <b>3. Multiply</b> this value by each part of the ratio.  Use only if you <b>know the total</b> .	Share £60 in the ratio 3 : 2 : 1.  $3 + 2 + 1 = 6$ $60 \div 6 = 10$ $3 \times 10 = 30, 2 \times 10 = 20, 1 \times 10 = 10$ £30 : £20 : £10
6. Proportional Reasoning	Comparing two things using <b>multiplicative reasoning</b> and applying this to a new situation.  Identify one multiplicative link and use this to find missing quantities.	
7. Unitary Method	Finding the <b>value of a single unit</b> and then finding the necessary value by <b>multiplying</b> the single unit value.	3 cakes require 450g of sugar to make. Find how much sugar is needed to make 5 cakes.  3 cakes = 450g So 1 cake = 150g (÷ by 3) So 5 cakes = 750 g (x by 5)
8. Ratio already shared	Find what <b>one part</b> of the ratio is worth using the <b>unitary method</b> .	Money was shared in the ratio 3:2:5 between Ann, Bob and Cat. Given that Bob had £16, found out the total amount of money shared.  £16 = 2 parts So £8 = 1 part $3 + 2 + 5 = 10$ parts, so $8 \times 10 = £80$
9. Best Buys	Find the <b>unit cost</b> by <b>dividing the price by the quantity</b> . The <b>lowest</b> number is the best value.	8 cakes for £1.28 → 16p each (÷ by 8) 13 cakes for £2.05 → 15.8p each (÷ by 13) Pack of 13 cakes is best value.