
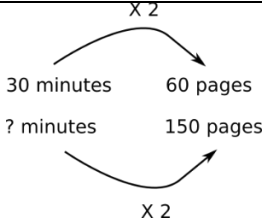


Topic: Ratio

Topic/Skill	Definition/Tips	Example
1. Ratio	Ratio compares the size of one part to another part . Written using the ':' symbol.	$3 : 1$ 
2. Proportion	Proportion compares the size of one part to the size of the whole . 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	Divide all parts of the ratio by a common factor .	$5 : 10 = 1 : 2$ (divide both by 5) $14 : 21 = 2 : 3$ (divide both by 7)
4. Ratios in the form $1 : n$ or $n : 1$	Divide both parts of the ratio by one of the numbers to make one part equal 1 .	$5 : 7 = 1 : \frac{7}{5}$ in the form $1 : n$ $5 : 7 = \frac{5}{7} : 1$ in the form $n : 1$
5. Sharing in a Ratio	<ol style="list-style-type: none"> Add the total parts of the ratio. Divide the amount to be shared by this value to find the value of one part. Multiply this value by each part of the ratio. Use only if you know the total .	Share £60 in the ratio $3 : 2 : 1$. $3 + 2 + 1 = 6$ $60 \div 6 = 10$ $3 \times 10 = 30, 2 \times 10 = 20, 1 \times 10 = 10$ $\pounds 30 : \pounds 20 : \pounds 10$
6. Proportional Reasoning	Comparing two things using multiplicative reasoning and applying this to a new situation. Identify one multiplicative link and use this to find missing quantities.	
7. Unitary Method	Finding the value of a single unit and then finding the necessary value by multiplying the single unit value.	3 cakes require 450g of sugar to make. Find how much sugar is needed to make 5 cakes. $3 \text{ cakes} = 450\text{g}$ So $1 \text{ cake} = 150\text{g}$ (\div by 3) So $5 \text{ cakes} = 750 \text{ g}$ (\times by 5)
8. Ratio already shared	Find what one part of the ratio is worth using the unitary method .	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. $\pounds 16 = 2 \text{ parts}$ So $\pounds 8 = 1 \text{ part}$ $3 + 2 + 5 = 10 \text{ parts, so } 8 \times 10 = \pounds 80$
9. Best Buys	Find the unit cost by dividing the price by the quantity . The lowest number is the best value.	$8 \text{ cakes for } \pounds 1.28 \rightarrow 16\text{p each}$ (\div by 8) $13 \text{ cakes for } \pounds 2.05 \rightarrow 15.8\text{p each}$ (\div by 13) Pack of 13 cakes is best value.