

## Topic: Equations and Formulae

Topic/Skill	Definition/Tips	Example
1. Solve	To find the <b>answer</b> /value of something  <b>Use inverse operations</b> on both sides of the equation (balancing method) until you find the value for the letter.	Solve $2x - 3 = 7$  Add 3 on both sides $2x = 10$ Divide by 2 on both sides $x = 5$
2. Inverse	<b>Opposite</b>	The inverse of addition is subtraction. The inverse of multiplication is division.
3. Rearranging Formulae	<b>Use inverse operations</b> on both sides of the formula (balancing method) until you find the expression for the letter.	Make x the subject of $y = \frac{2x-1}{z}$  Multiply both sides by z $yz = 2x - 1$ Add 1 to both sides $yz + 1 = 2x$ Divide by 2 on both sides $\frac{yz + 1}{2} = x$ We now have x as the subject.
4. Writing Formulae	<b>Substitute letters for words</b> in the question.	Bob charges £3 per window and a £5 call out charge.  $C = 3N + 5$  Where N=number of windows and C=cost
5. Substitution	<b>Replace letters with numbers.</b>  Be careful of $5x^2$ . You need to square first, then multiply by 5.	$a = 3, b = 2$ and $c = 5$ . Find: 1. $2a = 2 \times 3 = 6$ 2. $3a - 2b = 3 \times 3 - 2 \times 2 = 5$ 3. $7b^2 - 5 = 7 \times 2^2 - 5 = 23$