Y6 Mathematics — Algebra

Forming Expressions and Equations

Letters in **expressions** represent missing numbers

Add 14 to a	$a + 14$
Subtract 20 from b	$b - 20$
Multiply c by 4	$4c$
12 more than d	$d + 12$
Multiply e by 3 and subtract 5	$3e - 5$
Add 12 to f and then multiply by 2	$2(f + 12)$

$a + 14 = 20$

$b - 20 = 15$

$4c = 28$

$d + 12 = 30$

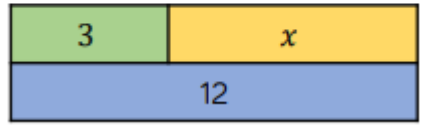
$3e - 5 = 10$

$2(f + 12) = 44$

An **equation** includes the = sign
Expressions on either side of the equals sign have equal value

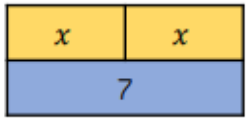
One Step and Two Step Equations

3x = 12
So x = 4

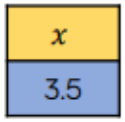


12 = 3 + x
So x = 9

2x + 5 = 12



2x = 7



X = 3.5

Vocabulary

expression	A group of numbers, letters and operation symbols
equation	A number statement containing the = sign
formula	A type of equation that shows the relationship between variables
variable	A symbol for a value we don't yet know – this is usually a letter
substitution	Putting values where letters are
value	A number or the result of a calculation

Formulas or Formulae

We often use **formulae** in geometry

Area of a rectangle
= length x width **A = L x W**

Area of a triangle
= (base x height) ÷ 2
A = (b x h) ÷ 2

Equations with Unknown Values

$ab = 18$

a	b
1	18
2	9
3	6
6	3
9	2
18	1

$2a + b = 10$

a	b
2	6
3	4
4	2
5	0

In equations with two unknown values, there may be several possible answers

Substitution

Values can be substituted for the letters

$w = 3 \quad x = 5 \quad y = 2.5$

$w + 10$
$w + x$
$y - w$