

Expand and simplify

$$(x + 3)(x + 2) = x^2 + 2x + 3x + 6$$

$$= x^2 + 5x + 6$$

$$(x + 4)(x - 2) = x^2 - 2x + 4x - 8$$

$$= x^2 + 2x - 8$$

$$(x - 6)(x - 5) = x^2 - 5x - 6x + 30$$

$$= x^2 - 11x + 30$$

**Factorise an expression** (Mathswatch 94)

This is the opposite of expand - put bracket back in

$$4y - 12 = 4(x - 3)$$

$$y^2 + 7y = y(y + 7)$$

Solve:

$$2(x + 3) = 16$$

$$2x + 6 = 16$$

$$2x = 10$$

$$x = 5$$

Expand

$$2(3x + 4) = 6x + 8$$

$$3(x - 2) = 3x - 6$$

$$2x(4x + 3y) = 8x^2 + 6xy$$

$$V = 2b + 3b^2$$

Find the value of  $V$  when  $b = -4.5$

$$2x(-4.5) + 3x(-4.5)^2 = 51.75$$

Solve

$$3x - 2 \leq 13$$

$$3x \leq 15$$

$$x \leq 5$$

Solve:

$$11 - 3x = 4x + 4$$

$$11 = 7x + 4$$

$$7 = 7x$$

$$1 = x$$

Expand and simplify

$$2(x + 3) + 3(2x + 5) = 8x + 21$$

$$2x + 6 + 6x + 15$$

$$3(4x + 3) + 5(3x + 1) = 27x + 14$$

$$12x + 9 + 15x + 5$$

The  $n$ th term of a number sequence is  $5n + 3$

Write down the first three terms and the tenth term of the sequence.

1st	2nd	3rd	10th
$5 \times 1 + 3$	$5 \times 2 + 3$	$5 \times 3 + 3$	$5 \times 10 + 3$
8	13	18	53

If the  $n$ th term of a number sequence is  $n^2 + 8$ , find the first 3 terms and the 10th term.

1	2	3	...	10
$1^2 + 8$	$2^2 + 8$	$3^2 + 8$		$10^2 + 8$
9	12	17		108

Find the  $n$ th term of these number sequences.

c) 5, 7, 9, 11, 13,  $2n + 3$

$\underbrace{\quad\quad}_2 \quad \underbrace{\quad\quad}_2 \quad \underbrace{\quad\quad}_2 \quad \underbrace{\quad\quad}_2$

2    4    6    8    10     $2n$

A number sequence is defined by two things:

- ✓ The first term of the sequence **2**
- ✓ The rule of the sequence **Add 3**

2, 5, 8, 11, 14 .



# Year 8 Term 2 Represent



# Year 8 Term 1 Tables and Probability

