

My mathematical journey

What do I need to remember from before?

- Exponents (NP4)
- Directed numbers (NP6)
- Expressions (A1)

*Mathswatch clips in brackets

What will I learn about in this unit at CEC?

- Adding and subtracting expressions
(NW A6)
- Multiplying and dividing expressions
(NW A7a, A7b)
- Index laws
(NW 131)
- Forming expressions
(NW 137)

Where does this lead?

- Expanding and factorising brackets (A3)
- Solving equations (A4)
- Quadratic expressions (A11)

Key words and symbols: what I need to say and write accurately

Word	Explanation
variable	a number that can change its value, represented by a letter such as x or a green tile when we do not know its value
constant	a number that does not change, is fixed
operation	something that takes input numbers and turns them into output numbers, such as addition (including subtraction), multiplication (including division), exponentiation (including roots)
expression	a collection of constants, variables and operations e.g. $4x$, $2p - 5$ and $x^2 + 3x + 6$ are all expressions
term	the parts of an expression separated by $+$ or $-$. e.g. in the expression $4x - \frac{1}{2}y$, the terms are $4x$ and $\frac{1}{2}y$

Fingertip facts: what I need to learn by heart

The index laws

- When we multiply powers with the same base, we can add their exponents.

$$x^7 \cdot x^3 = x^{10}$$

- When we divide powers with the same base, we can subtract their exponents.

$$\frac{x^7}{x^3} = x^4$$

- When we find a power of a power, we can multiply the exponents together.

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