

Progress Page: Year 8 Autumn 2:

Algebraic Techniques

Working Towards	Expected Standard	Reaching Greater Depth
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Topic	To achieve 'Expected Standard' you will be able to....	WT	ES	Sparx code
Sequences	Generate sequences given a rule in words			M381
	Generate sequences given a simple algebraic rule			M991
	Find the rule for the nth term of a linear sequence			M991
Indices	Adding and subtracting expressions with indices			M608
	Simplifying algebraic expressions by multiplying indices			M608
	Simplifying algebraic expressions by dividing indices			M608
	Using the addition law for indices			M608
	Using the addition and subtraction laws for indices			M608
Brackets, Equations and Inequalities	Form algebraic expressions			M813
	Use directed number with algebra			M795, M531 M949
	Multiply out a single bracket			M237
	Factorise into a single bracket			M100
	Expand multiple single brackets and simplify			M792
	Solve equations, including with brackets			M707 M509
	Understand and solve simple inequalities			M118
	To achieve 'Greater Depth' you will be able to...	GD		
Sequences	Generate sequences given a complex algebraic rule			M991
Indices	Exploring powers of powers			M120
Brackets, Equations and Inequalities	Expand a pair of binomials			M960
	Form and solve equations with brackets			M813 M957
	Form and solve inequalities			M118
	Solve equations and inequalities with unknowns on both sides			M554
	Form and solve equations and inequalities with unknowns on both sides			M554
	Identify and use formulae, expressions, identities and equations			M830



Y8 Autumn 2: Algebraic Techniques



In this topic, you will revisit Algebraic representations. You will find and replicate patterns, manipulate algebraic expressions and use algebra to solve real-world problems!

y	y	y	y	y	y
y	y	y	y	y	15

$$5y = 3y + 15$$

6 multiplied by y

6 more than y

y less than 6

$$(3^4)^2 = 3^4 \times 3^4 = 3^?$$



Assessment Point: Autumn 2 benchmark

$$\begin{aligned} 5a \times 3b \\ \equiv 5 \times a \times 3 \times b \\ \equiv 5 \times 3 \times a \times b \\ \equiv \end{aligned}$$

Simplify expressions by multiplying and dividing indices

$$20 - 3n$$

Generate sequences given an algebraic rule

$$7n + 4$$

Powers of powers

Algebraic techniques

Next Topic:
Developing
Geometry

Find the nth term of a sequence

Add and subtract expressions with indices

$$5x^2 + 2x^3$$

$$\begin{aligned} 2^6 \div 2^2 &= \frac{2^6}{2^2} \\ &= \frac{2 \times 2 \times 2 \times 2 \times 2 \times 2}{2 \times 2} \\ &= 2^4 \end{aligned}$$

$$\begin{aligned} 3^2 \times 3^4 \\ = (3 \times 3) \times (3 \times 3 \times 3 \times 3) \\ = 3^7 \end{aligned}$$

$$3m^3 \times 5m^2$$

Use the addition and subtraction laws for indices

$$\text{Expand } 2d(d + 3)$$

Expand and factorise single brackets

$$x + 2 > 7$$

Form and solve equations and inequalities

Expand double brackets (H)

$$5(2p - 3) - 2(2 + 3p)$$

$$(x + 4)(x + 3)$$

x	x	x	2
29			

$$\begin{aligned} 3 \times 2x &\equiv 6x \\ 3 \times 5 &= 15 \end{aligned}$$

Three more than double my number is greater than 10

Identify formulae, expressions, identities and equations

Solve equations and inequalities with brackets

Solve equations and inequalities with the unknown on both sides