AQA
Questions matter

STRIDE Maths

STRIDE INTO *THE FUTURE* OF ASSESSMENT

Teacher Companion Guide

Algebra

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Overview

Stride is a new offering from AQA which is designed to empower students and quickly identify and close their knowledge gaps in mathematics. Designed to help students starting their GCSEs – either for the first time or as a resit – the tests are accessible for all and adapt to students' knowledge, delivering the right amount of challenge.

Our new maths tests will allow teachers to pinpoint gaps in their students' conceptual knowledge - saving them time and empowering students, who will understand how to improve. They're fully funded for schools and colleges, easy to use for teachers and engaging for students.

The five short tests, created with the Key Stage 1 and 2 and Key Stage 3 guidance in mind, focus on key areas of maths that experts have identified as the most impactful for GCSE success. They come with personalised learning and next steps to allow students to develop in both knowledge and confidence.

Rationale

We know that maths is a hierarchical subject, with knowledge being built upon foundational maths which underpins the new concept. We have analysed data from hundreds of thousands of exam questions and found that even though content is first encountered in the early stages of a learner's schooling, a significant proportion of learners answer questions on the foundations of maths incorrectly.

With this in mind, we want to empower teachers to take control of their classrooms and provide a nurturing environment in which gaps within key prerequisite understanding are identified and corrective instruction is deployed, filling the gaps and ensuring that more complex content can be taught, safe in the knowledge that learners have the underlying knowledge required to be successful in their lessons, and thrive in the GCSE examinations.

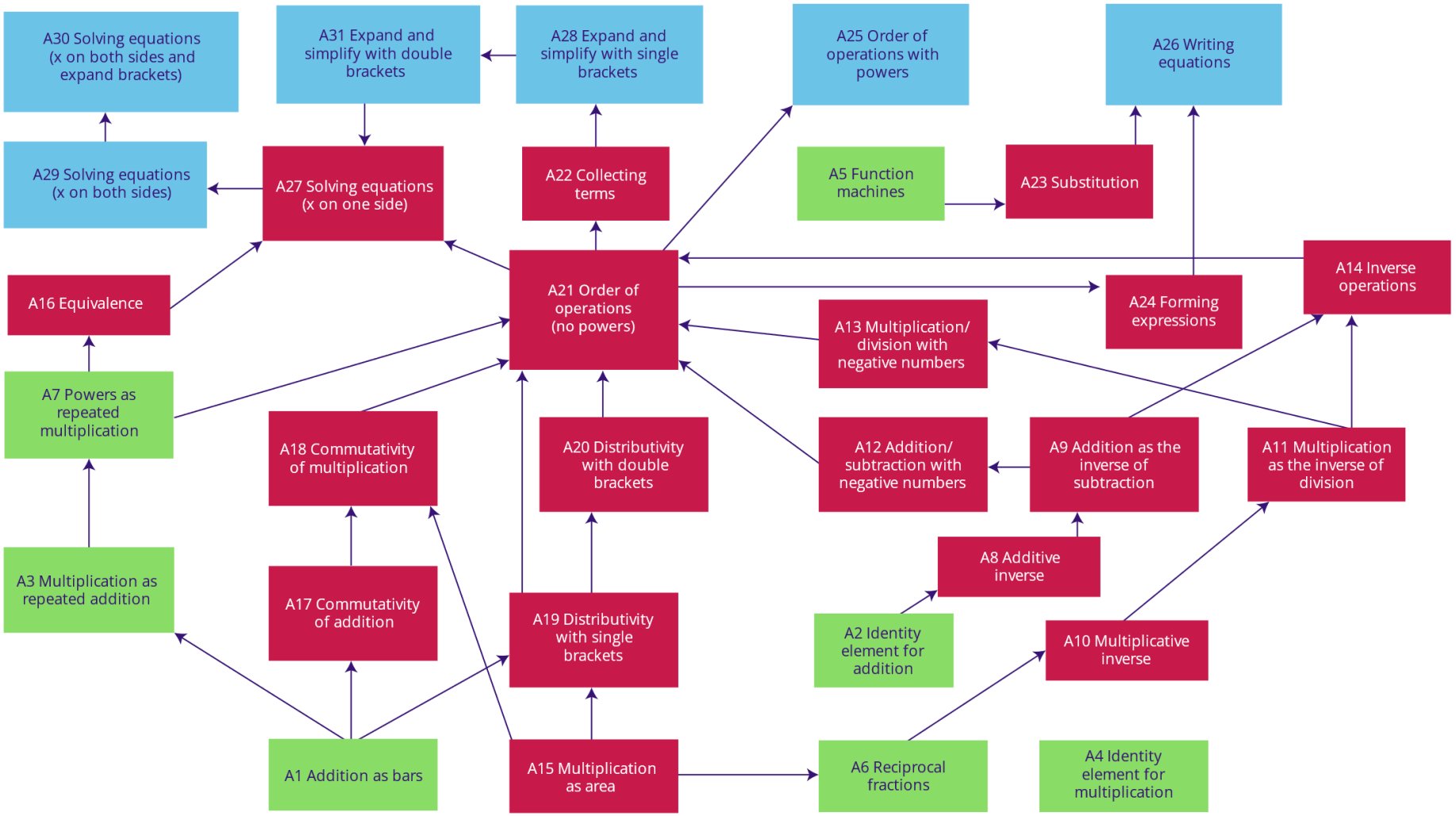
Key features

The Concept Map for Algebra, shown on the following page, identifies A21 Order of Operations as key understanding for success with algebraic techniques, particularly with A27 Solving Equations where the variable appears on one side of the equals sign only.

Order of Operations has many predecessors which can be summarised as the four mathematical operations, and it is clear that to succeed in Algebra, learners must have developed significant expertise with addition, subtraction, multiplication and division, appreciating the many relationships that exist between the four operations.

Concept Map

2. Algebra



A1 Addition as bars

What is being tested	Learners are being tested on their understanding of collecting separate groups to form a single group
Learning Objectives	A1.1 Match whole number additions to their diagram representations A1.2 Recognise the diagram that represents addition A1.3 Identify diagrams where changing the grouping does not change the answer
Predecessors	None
Successors	A3 Multiplication as repeated addition A15 Multiplication as area A17 Commutativity of addition
KS2 & KS3 Guidance	Learners encounter bar models in Year 1 (page 36, KS1 and KS2 guidance) as a representation for addition.
AQA GCSE Specification Reference	N2 apply the four operations, including formal written methods, to integers, decimals and simple fractions (proper and improper), and mixed numbers – all both positive and negative

A2 Identity element for addition

What is being tested	Learners are being tested on their understanding of the effect of adding and subtracting zero from a specified value.
Learning Objectives	A2.1 Recall that adding 0 to a number results in no change to the number A2.2 Recall that subtracting 0 from a number results in no change to the number
Predecessors	None
Successors	A8 Additive inverse
KS2 & KS3 Guidance	Learners begin to add in subtract in Year 1, and will explore the result of adding and subtracting 0 (KS1 and KS2, page 24)
AQA GCSE Specification Reference	Understanding the identity element for addition is key to success with directed numbers across the GCSE specification

A3 Multiplication as repeated addition

What is being tested	Learners are being tested on their understanding of representing repeated addition as a scalar
Learning Objectives	A3.1 Identify the corresponding repeated number addition for a given multiplication with whole numbers A3.2 Identify the corresponding repeated number addition for a given multiplication with algebra A3.3 Recognise repeated addition as multiplication with algebra
Predecessors	A3 Addition as bars
Successors	A7 Powers as repeated multiplication
KS2 & KS3 Guidance	Learners are introduced to the idea of writing repeated addition as a multiplication in Year 2 (page 69, KS1 and KS2 guidance)
AQA GCSE Specification Reference	A1 use and interpret algebraic notation, including 3y in place of y + y + y and 3 × y

A4 Identity element for multiplication

What is being tested	Learners are being tested on their understanding of multiplying and dividing by one
Learning Objectives	A4.1 Recall that multiplying a number by 1 does not change the value of the number A4.2 Multiply a number by 1 A4.3 Recall that dividing a number by 1 does not change the value of the number A4.4 Divide a number by 1
Predecessors	None
Successors	A10 Multiplicative inverse
KS2 & KS3 Guidance	Learners begin to multiply single-digit numbers in Year 2 (KS1 and KS2, page 70), and explore this idea throughout KS2
AQA GCSE Specification Reference	Understanding the identity element for multiplication is key to understanding reciprocal fractions

A5 Function machines

What is being tested	Learners are being tested on their ability to use two-step function machines, as well as using function machines inversely
Learning Objectives	A5.1 Calculate an output for a two-step function machine with a +/- and a ×/÷ when given a positive integer input A5.2 Calculate an output for a two-step function machine with a +/- and a ×/divide when given a negative integer input A5.3 Calculate an input for a two-step function machine with a +/- and a ×/divide when given an output A5.4 Calculate the input and the output from a simple two step function machine
Predecessors	None
Successors	A23 Substitution
KS2 & KS3 Guidance	A function machine is a key representation for developing understanding with operations and their inverses, deployed throughout Key Stages 1, 2 and 3
AQA GCSE Specification Reference	A7 where appropriate, interpret simple expressions as functions with inputs and outputs

A6 Reciprocal fractions

What is being tested	Learners are being tested on their understanding of reciprocals, using the correct terminology
Learning Objectives	A6.1 Identify the reciprocal of a given number A6.2 Write the reciprocal of a given whole number A6.3 Write the reciprocal of a given unit fraction A6.4 Write the reciprocal fraction for a given fraction
Predecessors	A15 Multiplication as area
Successors	A10 Multiplicative inverse
KS2 & KS3 Guidance	Learners are first introduced to reciprocals in Year 7 (page 46, KS3 guidance)
AQA GCSE Specification Reference	Understanding the idea of reciprocal fractions underpins understanding of division of fractions

A7 Powers as repeated multiplication

What is being tested	Learners are being tested on their understanding of representing repeated multiplication using index notation
Learning Objectives	A7.1 Match the corresponding repeated multiplication for given number in index form with whole numbers A7.2 Match the corresponding index form for given repeated multiplications with whole numbers A7.3 Identify the corresponding index form for given repeated multiplication with decimals A7.4 Write repeated multiplication with algebra in index form A7.5 Calculate powers with a whole number base A7.6 Calculate powers with a negative integer base A7.7 Calculate powers with a rational (fraction) base
Predecessors	A3 Multiplication as repeated addition
Successors	A21 Order of operations (no powers)
KS2 & KS3 Guidance	Learners are introduced to index notation for writing repeated multiplication at Upper KS2 (page 30, KS3 guidance)
AQA GCSE Specification Reference	A1 use and interpret algebraic notation, including: A^2 in place of a × a, a^3 in place of a × a × a, a^2b in place of a × a × b

A8 Additive inverse

What is being tested	Learners are being tested on their understanding of the 'additive inverse', referring to the additive identity as a 'zero pair'
Learning Objectives	A8.1 Identify the zero pair to a given integer A8.2 Recall that subtracting a number from 0 gives its zero pair A8.3 Describe a zero pair A8.4 Write the zero pair to a given number with mixed number types A8.5 Add a number to its zero pair
Predecessors	A2 Identity element for addition
Successors	A9 Addition as the inverse of subtraction
KS2 & KS3 Guidance	Learners are first introduced to the idea of a 'zero pair' in Year 7 (page 47, KS3 guidance)
AQA GCSE Specification Reference	Understanding the identity element for addition, leading to the additive inverse, is key to success with directed numbers across the GCSE specification

A9 Addition as the inverse of subtraction

What is being tested	Learners are being tested on their understanding of addition and subtraction as inverse operations
Learning Objectives	A9.1 Recall that addition is the inverse of subtraction A9.2 Recognise the equivalent calculation when subtraction is replaced with its zero pair
Predecessors	A8 Additive inverse
Successors	A12 Addition/ subtraction with negative numbers A14 Inverse operations
KS2 & KS3 Guidance	Learners begin to appreciate the inverse relationship between addition and subtraction in Year 3 (page 113, KS1 and KS2 guidance)
AQA GCSE Specification Reference	N13 recognise and use relationships between operations, including inverse operations (eg cancellation to simplify calculations and expressions)

A10 Multiplicative inverse

What is being tested	Learners are being tested on their understanding of the 'multiplicative inverse', referring to the multiplicative inverse as the 'reciprocal'
Learning Objectives	A10.1 Calculate the product of a number and its reciprocal A10.2 Write the denominator of the reciprocal of a given number so the product is 1 A10.3 Recall that a whole number multiplied by its reciprocal is equal to 1 A10.4 Recall that a fraction multiplied by its reciprocal is equal to 1 A10.5 Recall that the product of a number and its reciprocal is always 1 A10.6 Recall that zero is the only number that does not have a reciprocal A10.7 Match an expression with repeated multiplication of reciprocals to the product
Predecessors	A6 Reciprocal fractions A4 Identity element for multiplication
Successors	A11 Multiplication as the inverse of division
KS2 & KS3 Guidance	Learners are first introduced to reciprocals in Year 7 (page 46, KS3 guidance)
AQA GCSE Specification Reference	Understanding the idea of reciprocal fractions, and therefore the multiplicative inverse, underpins understanding of division of fractions

A11 Multiplication as the inverse of division

What is being tested	Learners are being tested on their understanding of multiplication and division as inverse operations
Learning Objectives	A11.1 Recognise the correct calculation when division by a fraction has been replaced with its reciprocal A11.2 Recognise the correct calculation when division by a whole number has been replaced with its reciprocal A11.3 Recall that multiplication is the inverse of division
Predecessors	A10 Multiplicative inverse
Successors	A13 Multiplication/ division with negative numbers A14 Inverse operations
KS2 & KS3 Guidance	Learners begin to appreciate the inverse relationship between multiplication and division in Year 6 (page 112, KS3 guidance)
AQA GCSE Specification Reference	N13 recognise and use relationships between operations, including inverse operations (eg cancellation to simplify calculations and expressions)

A12 Addition/subtraction with negative numbers

What is being tested	Learners are being tested on their ability to add and subtract using directed numbers, drawing on their understanding of 'zero pairs'
Learning Objectives	A12.1 Calculate the addition of a negative and a positive integer A12.2 Calculate the addition of two negative integers A12.3 Calculate the subtraction of two negative integers A12.4 Calculate the subtraction of up to three negative and positive integers
Predecessors	A9 Addition as the inverse of subtraction
Successors	A21 Order of operations (no powers)
KS2 & KS3 Guidance	Learners begin to add and subtract using directed numbers in Year 7 (page 41, KS3 guidance)
AQA GCSE Specification Reference	N2 apply the four operations, including formal written methods, to integers, decimals and simple fractions (proper and improper), and mixed numbers – all both positive and negative

A13 Multiplication/division with negative numbers

What is being tested	Learners are being tested on their ability to multiply and divide using directed numbers
Learning Objectives	A13.1 Calculate the multiplication of a negative and a positive number A13.2 Calculate the division of two negative numbers A13.3 Calculate the multiplication of up to three negative and positive numbers
Predecessors	A11 Multiplication as the inverse of division
Successors	A21 Order of operations (no powers)
KS2 & KS3 Guidance	Learners begin to add and subtract using directed numbers in Year 7 (page 41, KS3 guidance)
AQA GCSE Specification Reference	N2 apply the four operations, including formal written methods, to integers, decimals and simple fractions (proper and improper), and mixed numbers – all both positive and negative

A14 Inverse operations

What is being tested	Learners are being tested on their understanding of inverse operations when working with multiplication
Learning Objectives	A14.1 Identify a specific inverse calculation for a given multiplication A14.2 Identify the inverse calculations of multiplication using a reciprocal A14.3 Identify the calculation that doesn't have an inverse calculation of multiplication using a reciprocal A14.4 Identify the reverse calculation of a given example with improper fractions using reciprocals
Predecessors	A9 Addition as the inverse of subtraction A11 Multiplication as the inverse of division
Successors	A21 Order of operations (no powers)
KS2 & KS3 Guidance	Learners begin to appreciate the inverse relationship between multiplication and division in Year 6 (page 113, KS3 guidance), and are introduced to reciprocals in Year 7 (page 46, KS3 guidance)
AQA GCSE Specification Reference	N13 recognise and use relationships between operations, including inverse operations (eg cancellation to simplify calculations and expressions)

A15 Multiplication as area

What is being tested	Learners are being tested on their understanding of multiplication, representing multiplications as areas
Learning Objectives	A15.1 Order the given dimensions of different rectangles by calculating the size of their area A15.2 Identify a graphic of the partitioned area corresponding to a distributed calculation A15.3 Recognise the diagram that represents multiplication A15.4 Identify the area corresponding to a given multiplication A15.5 Recognise equivalent partitions of a given area (2-digit × 2-digit)
Predecessors	A1 Addition as bars
Successors	A6 Reciprocal fractions A19 Distributivity with single brackets
KS2 & KS3 Guidance	Learners are introduced to the idea of arrays to represent multiplication in Year 2 (page 80, KS1 and KS2 guidance), and extend this to the area of a rectangle in Year 5 (page 269, KS3 guidance)
AQA GCSE Specification Reference	An understanding of the area model for multiplication provides an excellent foundation for extending multiplication across the GCSE specification

A16 Equivalence

What is being tested	Learners are being tested on their understanding of the term 'equivalence'
Learning Objectives	A16.1 Complete an equation by adding a shape on one side of the equation A16.2 Match equivalent expressions with whole numbers and one operation A16.3 Categorise equivalent expressions with whole numbers and mixed operations
Predecessors	None
Successors	A27 Solving equations (x on one side)
KS2 & KS3 Guidance	Learners begin to explore equivalence through place value in Year 3 (KS1 and KS2, page 83), and extend on this idea throughout Key Stages 1, 2 and 3
AQA GCSE Specification Reference	Understanding of equivalence is key to success across the GCSE specification

A17 Commutativity of addition

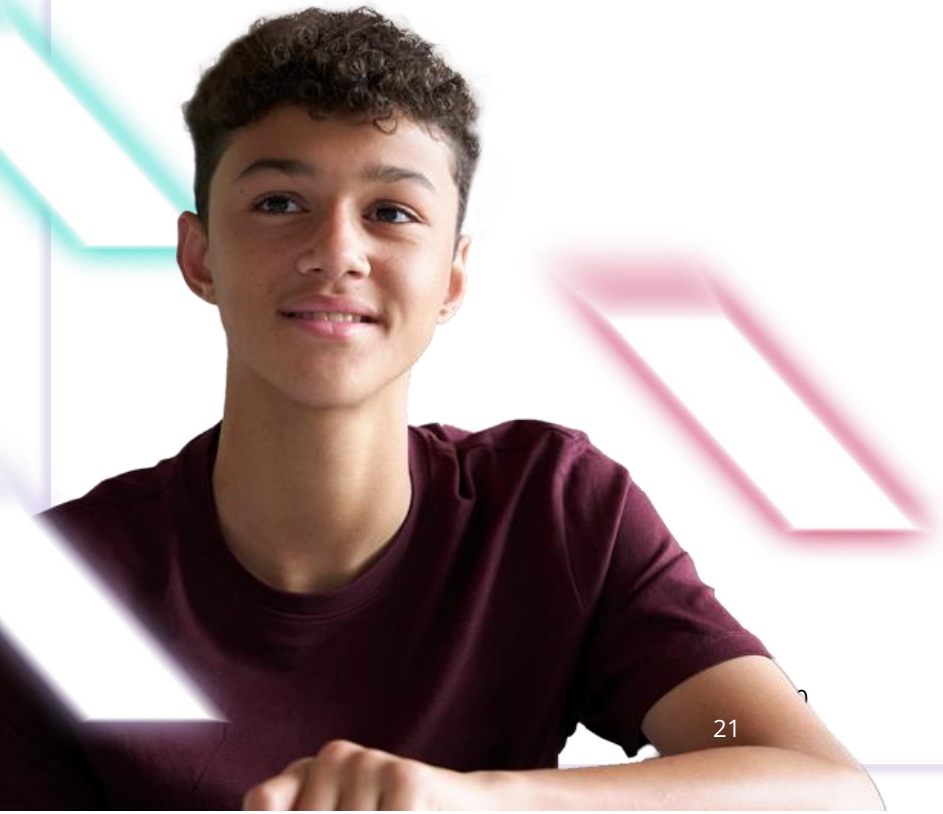
What is being tested	Learners are being tested on their understanding of 'commutativity' with additive relationships
Learning Objectives	A17.1 Distinguish whether the order of numbers matters in calculations with addition or subtraction with whole numbers A17.2 Distinguish whether the order of numbers matters in calculations with addition or subtraction with algebra A17.3 Recall that the order of numbers matters in subtraction A17.4 Subtract two numbers in different order to show that it changes the result of the subtraction
Predecessors	A1 Addition as bars
Successors	A18 Commutativity of multiplication
KS2 & KS3 Guidance	Learners use the commutative property of addition in Year 3 (page 113, KS1 and KS2 guidance)
AQA GCSE Specification Reference	Understanding of commutativity is key to success across the GCSE specification

A18 Commutativity of multiplication

What is being tested	Learners are being tested on their understanding of 'commutativity' with multiplicative relationships
Learning Objectives	A18.1 Distinguish whether the order of numbers matters in calculations with multiplication or division with whole numbers A18.2 Recall that the order of numbers matters in division A18.3 Divide two numbers in different order to show that it changes the result of the division A18.4 Sort operations by whether they give the same or a different answer
Predecessors	A15 Multiplication as area A17 Commutativity of addition
Successors	A21 Order of operations (no powers)
KS2 & KS3 Guidance	Learners use the commutative property of multiplication in Year 4 (page 173, KS1 and KS2 guidance)
AQA GCSE Specification Reference	Understanding of commutativity is key to success across the GCSE specification

A19 Distributivity with single brackets

What is being tested	Learners are being tested on their understanding of the distributive property, applying the property to expressions with a single set of brackets
Learning Objectives	A19.1 Identify the correct diagram representation for a given multiplication with single brackets A19.2 Identify the equation that represents a multiplication with single brackets, with whole numbers A19.3 Identify the equation that represents a multiplication with single brackets, with algebra A19.4 Identify the equation that represents a division with single brackets, with whole numbers A19.5 Identify the equation that represents a division with single brackets, with algebra
Predecessors	A15 Multiplication as area
Successors	A20 Distributivity with double brackets A21 Order of operations (no powers)
KS2 & KS3 Guidance	Learners begin to appreciate distributivity across a single bracket in Year 7 (page 59, KS3 guidance)
AQA GCSE Specification Reference	A4 simplify and manipulate algebraic expressions by: multiplying a single term over a bracket



A20 Distributivity with double brackets

What is being tested	Learners are being tested on their understanding of the distributive property, applying the property to expressions with two sets of brackets
Learning Objectives	A20.1 Identify the equation that represents a multiplication with double brackets, with whole numbers A20.2 Identify the equation that represents a multiplication with double brackets, with algebra A20.3 Identify the equation that represents a division with double brackets, with whole numbers
Predecessors	A19 Distributivity with single brackets
Successors	A21 Order of operations (no powers)
KS2 & KS3 Guidance	Learners extend their understanding of distributivity, working with pairs of brackets in Year 9 (page 234, KS3 guidance)
AQA GCSE Specification Reference	A4 simplify and manipulate algebraic expressions by: expanding products of two binomials

A21 Order of operations (no powers)

What is being tested	Learners are being tested on their understanding of the priority of the four mathematical operations in a given calculation
Learning Objectives	A21.1 Know the order of operations A21.2 Identify the first calculation in complex calculations with whole numbers (four operations and brackets) A21.3 Rank the operations in a complex calculation with decimals (four operations) A21.4 Apply the order of operations to positive and negative integer number calculations without a power A21.5 Identify the correct first calculation in complex calculations with fractions (four operations)
Predecessors	A7 Powers as repeated multiplication A12 Addition/subtraction with negative numbers A13 Multiplication/division with negative numbers A14 Inverse operations A18 Commutativity of multiplication A19 Distributivity with single brackets A20 Distributivity with double brackets
Successors	A22 Collecting terms A24 Forming expressions A25 Order of operations with powers A27 Solving equations (x on one side)
KS2 & KS3 Guidance	Learners are introduced to the idea of the priority of operations in Upper KS2, extending their knowledge in Year 7 (page 41, KS3 guidance)
AQA GCSE Specification Reference	N3 use conventional notation for priority of operations, including brackets, powers, roots and reciprocals

A22 Collecting terms

What is being tested	Learners are being tested on their understanding of 'like terms', simplifying algebraic expressions
Learning Objectives	A22.1 Identify like terms in a given expression A22.2 Simplify an expression by collecting like terms A22.3 Simplify an expression with some variables with no powers and some squared variables
Predecessors	A21 Order of operations (no powers)
Successors	A28 Expand and simplify with single brackets
KS2 & KS3 Guidance	Learners are introduced to the idea of 'like terms' in Year 7 (page 41, KS3 guidance).
AQA GCSE Specification Reference	A4 simplify and manipulate algebraic expressions by: collecting like terms

A23 Substitution

What is being tested	Learners are being tested on their ability to substitute into algebraic expressions to evaluate an expression for a given value
Learning Objectives	A23.1 Evaluate single variable positive integer substitutions A23.2 Describe what substitution means A23.3 Evaluate dual positive integer substitutions A23.4 Evaluate multiple variable positive and negative integer substitutions
Predecessors	A5 Function machines
Successors	A26 Writing equations
KS2 & KS3 Guidance	Learners begin to appreciate the idea of substitution in Year 7 (page 59, KS3 guidance)
AQA GCSE Specification Reference	A2 substitute numerical values into formulae and expressions, including scientific formulae

A24 Forming expressions

What is being tested	Learners are being tested on their understanding of algebraic notation, forming expressions which involve an unknown quantity
Learning Objectives	A24.1 Write an expression by subtracting an unknown from a number A24.2 Match expressions with division or subtraction to their descriptions A24.3 Write an expression by multiplying an unknown and then subtracting a number A24.4 Identify the correct order of statements to interpret an expression A24.5 Identify an expression from its description (multiplication) A24.6 Identify an expression from its description (division)
Predecessors	A21 Order of operations (no powers)
Successors	None
KS2 & KS3 Guidance	Learners begin to work with algebraic notation in Year 7 (page 130, KS3 guidance).
AQA GCSE Specification Reference	A21 translate simple situations or procedures into algebraic expressions or formulae

A25 Order of operations with powers

What is being tested	Learners are being tested on their understanding of the priority of operations in a given calculation, including powers
Learning Objectives	A25.1 Identify the correct first calculation in complex calculations (four operations and powers), with whole numbers A25.2 Identify the correct first calculation in complex calculations (four operations and powers), with algebra A25.3 Perform successive steps in complex calculations (four operations), with mixed numbers A25.4 Apply the order of operations to positive and negative integer number calculations with a power
Predecessors	A21 Order of operations (no powers)
Successors	None
KS2 & KS3 Guidance	Learners are introduced to the idea of the priority of operations in Upper KS2, extending their knowledge in Year 7 (page 41, KS3 guidance)
AQA GCSE Specification Reference	N3 use conventional notation for priority of operations, including brackets, powers, roots and reciprocals

A26 Writing equations

What is being tested	Learners are being tested on their ability to form expressions in context, leading to a formula
Learning Objectives	A26.1 Recognise the correct formula for a given description A26.2 Construct a formula for a given description A26.3 Recognise the correct description for a given formula
Predecessors	A23 Substitution A24 Forming expressions
Successors	None
KS2 & KS3 Guidance	Learners begin to work with algebraic notation in Year 7 (page 130, KS3 guidance), and are introduced to formulae in Year 8 (page 155, KS3 guidance)
AQA GCSE Specification Reference	A21 translate simple situations or procedures into algebraic expressions or formulae

A27 Solving equations (x on one side)

What is being tested	Learners are being tested on their understanding of the use of inverse operations to solve linear equations
Learning Objectives	A27.1 Solve equations of the form x + a=b (x is negative) A27.2 Solve equations of the form ax = b (x is negative) A27.3 Solve equations of the form ax + b = c (x is negative) A27.4 Solve equations of the form ax + b = c with fractions (x is negative)
Predecessors	A16 Equivalence A21 Order of operations (no powers) A31 Expand and simplify with double brackets
Successors	A29 Solving equations (x on both sides)
KS2 & KS3 Guidance	Learners begin solving equations to calculate the value of an unknown in Year 8 (page 147, KS3 guidance)
AQA GCSE Specification Reference	A17 solve linear equations in one unknown algebraically

A28 Expand and simplify with single brackets

What is being tested	Learners are being tested on their understanding of the distributive property and collecting like terms, simplifying the sums of expanded brackets
Learning Objectives	A28.1 Simplify by expanding a single bracket with addition and collecting like terms A28.2 Simplify by expanding a single bracket with subtraction and collecting like terms A28.3 Identify the correct area of a given rectangle by expanding single brackets
Predecessors	A22 Collecting terms
Successors	A31 Expand and simplify with double brackets
KS2 & KS3 Guidance	Learners first encounter the expansion of brackets (page 64, KS3 guidance) and collecting like terms (page 41, KS3 guidance) in Year 7
AQA GCSE Specification Reference	A4 simplify and manipulate algebraic expressions by: multiplying a single term over a bracket collecting like terms

A29 Solving equations (x on both sides)

What is being tested	Learners are being tested on their understanding of the use of inverse operations to solve linear equations where the unknown appears twice
Learning Objectives	A29.1 Solve equations of the form ax + b = cx + d (x is positive) A29.2 Solve equations of the form ax + b = cx + d (x is negative) A29.3 Solve equations of the form ax + b = cx + d with fractions (x is positive, same denominator)
Predecessors	A27 Solving equations (x on one side)
Successors	A30 Solving equations (x on both sides and expand brackets)
KS2 & KS3 Guidance	Learners begin to solve equations with the unknown on both sides in Year 8 (page 156, KS3 guidance)
AQA GCSE Specification Reference	A17 solve linear equations in one unknown algebraically including those with the unknown on both sides of the equation

A30 Solving equations (x on both sides and expand brackets)

What is being tested	Learners are being tested on their understanding of the use of inverse operations to solve linear equations where the unknown appears twice and involves brackets
Learning Objectives	A30.1 Solve equations of the form a(bx + c) = d(ex + f) (x is positive) A30.2 Solve equations of the form a(bx + c) = d(ex + f) (x is negative) A30.3 Solve equations of the form a(x + b) = c(x + d) (plus or minus, fractions)
Predecessors	A29 Solving equations (x on both sides)
Successors	None
KS2 & KS3 Guidance	Learners first encounter the expansion of brackets (page 64, KS3 guidance) and begin to solve equations with the unknown on both sides in Year 8 (page 156, KS3 guidance)
AQA GCSE Specification Reference	A4 simplify and manipulate algebraic expressions by: multiplying a single term over a bracket A17 solve linear equations in one unknown algebraically including those with the unknown on both sides of the equation

A31 Expand and simplify with double brackets

What is being tested	Learners are being tested on their understanding of the distributive property with two sets of brackets and collecting like terms, expanding brackets and simplifying the resultant expression
Learning Objectives	A31.1 Simplify by expanding double brackets with subtraction and collecting like terms A31.2 Simplify by expanding a difference of 2 squares A31.3 Identify the correct area of a given rectangle by expanding double brackets
Predecessors	A28 Expand and simplify with single brackets
Successors	A27 Solving equations (x on one side)
KS2 & KS3 Guidance	Learners first encounter collecting like terms (page 41, KS3 guidance) in Year 7, and expand pairs of brackets in Year 9 (page 234, KS3 guidance)
AQA GCSE Specification Reference	A4 simplify and manipulate algebraic expressions by: expanding products of two binomials

Contributors

AQA

We're an independent education charity, providing high quality assessments that are fair, reliable, and support students in their educational journey.

Our qualifications expertise dates back to 1903, when our predecessor boards were founded by five leading universities. Today, we're the largest provider of academic qualifications taught in schools and colleges.

We set and mark the papers for over half of all GCSEs and A-levels taken every year. But exams are only part of the story – we also make sure the content of our qualifications support great teaching.

Our qualifications are designed to suit a range of abilities and include GCSEs, AS and A-levels, the Extended Project Qualification and Technical Awards. Our qualifications are internationally recognised and taught in more than 40 countries around the world and they're highly valued by employers and universities.

We're led by our Executive Team and governed by a Board of Trustees drawn from schools, colleges, higher education, children's services and the business community.

Our charitable purpose

We have over a century of qualifications expertise dating back to 1903 when our predecessor boards were founded by five leading universities. These public exam boards came into existence to provide an opportunity for young people from a range of backgrounds to access education and make the most of their potential.

This commitment to social mobility remains at the heart of AQA's charitable purpose, which is to advance education by enabling teachers and students to realise their potential.

We demonstrate this by providing qualifications that enable students to progress, and reinvesting any surplus we make in:

- research – through the expertise of our Assessment Research and Innovation teams, we ensure that we are able to continuously improve the quality and reliability of our assessments and contribute to the development of assessment policy and practice, both in the UK and around the world
- offering a broad range of qualifications because we believe they have educational value – and not offering qualifications that could be profitable, but we don't think would help students progress
- directly funding activities such as our AQA Unlocking Potential programme, which helps develop and inspire young people facing challenges in life
- improving social mobility through education, by sponsoring groups of teachers from areas with low student attainment, to attend residential leadership courses with The PTI (Prince's Teaching Institute).