Maths KS3

Cowes ENTERPRISE COLLEGE · AN AMBITIOUS ACADEMY · Educate for Life

KEY | 🔴 Number | 🟠 Measure | 🟡 Geometry | 🟢 Algebra | 🟣 Probability | 🔵 Statistics | 🔵 Ratio and Proportion

YR7

Y7 UNIT 1 — Place value
How does the base 10 system work?
What is an integer?
When does multiplication make a number smaller and division make it bigger?

Y7 UNIT 2 — Addition and subtraction
How can I select the best strategies to addition and subtraction?
What is a complement?

Y7 UNIT 3 — Multiplication and division
How can I select the best strategies to multiply and divide?
What is a highest common factor?
What is a lowest common multiple?
What is meant by equality?

Y7 UNIT 4 — Directed number
How do vectors show positive and negative numbers on a number line?

Y7 UNIT 7 — Averages
How do I find the median of a set of numbers?

Y7 UNIT 6 — Metric conversion
How do I convert between different metric units?

Y7 UNIT 5 — Rounding
How do I round to decimal places and significant figures?

Y7 UNIT 8 — Directed number
What is a zero pair?

Y7 UNIT 9 — Geometery
How do I find the perimeter of a shape?
How do I find a missing angle on a straight line or around a point?

Y7 UNIT 10 — Averages
How do I calculate the mean of a set of numbers?

Y7 UNIT 11 — Geometry
How do I find the volume of a cuboid?
How do I find the area of a rectangle?

Y7 UNIT 14 — Directed Number
How do I add and subtract with directed numbers?
How do I multiply and divide with directed numbers?
Where do we use negative numbers outside the classroom?

Y7 UNIT 13 — Order of operations
What is the correct order of operations?
Which operations are commutative?
Which symbols are used to break the order of the operations?

Y7 UNIT 12 — Powers and roots
How do I write an integer as a product of its prime factors?
What are exponents and roots?
What are prime and composite numbers?
Why is index notation useful?

Y7 UNIT 15 — Algebra
How do I simplify an expression?
How do I substitute numbers into an expression?
What is a variable?
What is an expression?

Y7 UNIT 16 — Fractions
How do I add fractions with different denominators?
How do I convert a mixed number to an improper fraction?
How do I find equivalent fractions?
How do I find fraction of amounts?
How do I represent fractions on a number line?
What is a sneaky one?

Y7 UNIT 19 — Algebra
Can I set up an algebraic expression?
Can I simplify expressions with constants and variables?
Can I tell the difference between an expression and an equation?

Y7 UNIT 18 — Estimation and use of a scientific calculator
Can I convert between units of time using a calculator?
Can I calculate an upper or lower bound given a degree of accuracy?

Y7 UNIT 17 — FDP equivalence
Can I find a percentage using a decimal multiplier?
How can I convert a fraction to a decimal?
What does the word percentage mean?
What is a terminating decimal?

YR8

Y8 UNIT 1 — Directed number
How do I square a negative number?

Y8 UNIT 2 — Substitution
What does it mean to substitute a variable?
Sequences
What is an arithmetic sequence? ?

Y8 UNIT 3 — Indices
What is the value of 2^1?
Why does $n^0 = 1$?

Y8 UNIT 4 — Expand and Factorise
Can I multiply out two sets of single brackets?
Can I factorise expressions including those with indices into single brackets?

Y8 UNIT 7 — Equations
Can I solve linear equations?
How do I solve equations with variables on both sides?

Y8 UNIT 6 — Rearrange Formulae
What is the subject of a formula?
How do I change the subject of a formula?

Y8 UNIT 5 — Linear Graphs
How do I plot a linear graph from a table of values?
Can I identify the gradient and y-intercept?

Y8 UNIT 8 — Area
How do I find the area of compound shapes?
How do I find the surface area of different prisms?

Y8 UNIT 9 — Ratio recap
How do I compare ratio and related fractions?
How do I divide an amount in a given ratio?

Y8 UNIT 10 — Algebra
What is the difference between solving an inequality or an equation?

Y8 UNIT 11 — Probability
How can I use probability to make estimates and predictions?
What is the difference between theoretical and experimental probability?

Y8 UNIT 14 — Circles
Can I name the different parts of a circle?

Y8 UNIT 13 — Statistical Diagrams
Can I draw and interpret pie charts?
What is a frequency tree?

Y8 UNIT 12 — Averages
Can I make decisions about the best average to use for a data set?

Y8 UNIT 15 — Constructions
Can I construct an accurate triangle with only ruler and pair of compasses?
Can I construct an accurate triangle with only ruler and protractor?

Y8 UNIT 16 — Volume
How do I find the volume of a cylinder?
How can I find the volume of different prisms?

Y8 UNIT 18 — Problem Solving with angles
Can I solve simple equations using the rules of angles and parallel?

Y8 UNIT 17 — Fractions, Decimal Percentages
How do I calculate percentage change?
How do I compare with decimals with fractions?

YR9

Y9 UNIT 1 — Substitution
Can I interpret algebraic notation?

Y9 UNIT 2 — Sequences
Can I recognise arithmetic, Fibonacci, quadratic and geometric sequences?

Y9 UNIT 3 — Linear Graphs
What do the variables in y=mx+c represent?

Y9 UNIT 4 — Transformations
Can I describe the four transformations?

Y9 UNIT 7 — Linear equations
How do I solve linear equations with unknown on both sides?

Y9 UNIT 6 — Indices
How do I calculate $2^5 \times 3^2$?

Y9 UNIT 5 — Direct and Inverse
Can I identify direct and inverse proportion?

Y9 UNIT 8 — Inequalities
How do I solve an inequality with a negative variable?
How do I solve an inequality with variables on both sides?

Y9 UNIT 9 — Quadratic Manipulation
How do I factorise a quadratic expression?
How do I expand double brackets?

Y9 UNIT 10 — Quadratic Functions
How do I find the roots of an equation from a graph?
Can I plot a quadratic graph when given an equation?

Y9 UNIT 11 — Constructions
What is a perpendicular bisector and how do I construct one?
What does the locus of points mean?

Y9 UNIT 14 — Area
How do I calculate the surface area of prisms and cylinders?

Y9 UNIT 13 — Angles and Shape Geometry
Can I use a scale drawing to find real life measurements?
How can I use parallel lines rules to solve bearings problems?

Y9 UNIT 12 — Angles and shape Geometry
What are the rules of congruency?
How do I use corresponding; alternate and co interior facts to calculate angles?

Y9 UNIT 15 — Simultaneous Equations
How do I solve simultaneous equations using a graph?

Y9 UNIT 16 — Bounds
How do I find the upper and lower bounds involving calculations?

Y9 UNIT 19 — Data
Can I use a Venn Diagram?

Y9 UNIT 18 — Probability
Can I use and calculate relative frequency?
Can I use Theoretical Probability and compare it to relative frequency?

Y9 UNIT 17 — Probability
Can I complete a frequency tree?
Can I list outcomes systematically?

Y9 UNIT 20 — Scatter Graphs
What are the dangers of extrapolating data from a scatter graph?
How do I draw a line of best fit?

KS4