

YR10



Angles

How do I use capital and lower-case letters to indicate points, vertices, lines and angles?
How do I apply the properties of: angles at a point, angles at a point on a straight line, vertically opposite angles?
When and how do I apply alternate and corresponding angles to solving angle problems?

Y10 AUTUMN 1



Scale Diagrams & Bearings

How do I work out scale factors, draw scale diagrams and read maps?
Can I measure line segments and apply this to interpreting maps and scale drawings?
How do I use and solve problems with bearings?

Y10 AUTUMN 2



Basic Number

Can I apply the four operations, including formal written methods, to integers both positive and negative?
Do I recognise and use relationships between operations including inverse operations?
What strategies can be used to estimate answers and use approximation?

Y10 AUTUMN 3

Coordinates and Linear Graphs

Can I work with coordinates in all four quadrants?
How do I solve geometrical problems on coordinate axes?
What do m and c represent in $y = mx + c$?
How do I use the form $y = mx + c$ to identify parallel lines?

Y10 AUTUMN 7

Basic Fractions

How do I order positive and negative fractions?
How do I apply the four operations, including formal written methods, to simple fractions (proper and improper) and mixed numbers - both positive and negative?
How do I calculate exactly with fractions?

Y10 AUTUMN 6

Basic algebra review

Can I explain conventional notation for priority of operations, including brackets, powers and roots (BIDMAS)?
Can I identify expressions, equations, formulae, identities, inequalities, terms and factors?
How do I simplify and manipulate algebraic expressions by: collecting like terms, multiplying a single term over a bracket, and taking out common factors?

Y10 AUTUMN 5

Factors and Multiples

Do I know the concepts and vocabulary of prime numbers, factors (divisors), multiples, common factors, common multiples, highest common factor, lowest common multiple and prime factorisation?
How do I apply systematic listing strategies?

Y10 AUTUMN 4

Basic Decimals

How do I use place value when ordering positive and negative decimals?
What methods do I know for adding, subtracting, multiplying and dividing decimals?
How do I use place value when multiplying and dividing by powers of 10?
Can I work interchangeably with terminating decimals and their corresponding fractions (such as 3.5 and $7/2$ or 0.375 and $3/8$)?

Y10 AUTUMN 8

Rounding

How do I round numbers and measures to an appropriate degree of accuracy?
How do I use inequality notation to specify simple error intervals due to truncation or rounding?
How do I apply and interpret limits of accuracy including upper and lower bounds?

Y10 AUTUMN 9

Collecting and Representing Data

Can I interpret and construct tables, charts and diagrams, including: frequency tables, bar charts, pie charts and pictograms for categorical data?
How do I choose which diagram to use?

Y10 AUTUMN 10

Sequences

How do I recognise the following: sequences of triangular, square and cube numbers, simple arithmetic progressions, Fibonacci-type sequences, How do I deduce expressions to calculate the n th term of linear sequences?

Y10 AUTUMN 11



Basic Percentages

How do I interpret percentages and percentage changes as a fraction or a decimal and interpret these multiplicatively?
How do I express one quantity as a percentage of another?

Y10 SPRING 1

Perimeter and Area

What properties can be used to describe: cubes, cuboids, prisms, cylinders, pyramids, cones and spheres?
How do I find the surface area of pyramids and composite solids?
Do you know and can you apply formulae to calculate area of triangles, parallelograms, and trapeziums?

Y10 SPRING 2

Circumference and Area

Can I recall and use the formulae: Circumference = $2\pi r = \pi d$ AND Area of a circle = πr^2 ?
How do I substitute into the formulae to calculate the surface area of spheres and cones?

Y10 SPRING 3

Real Life Graphs

How do I plot and interpret graphs and graphs of non-standard functions in real contexts?
How do I find the gradient of a straight-line graph and interpret it as a rate of change?

Y10 SPRING 4

Ratio and Proportion

How do I reduce a ratio to its simplest form?
How do I divide an amount into a given ratio?
Can I apply ratio to real contexts and problems?
Do I know how to express a multiplicative relationship between two quantities as a ratio and also as a fraction?

Y10 SPRING 5

Properties of polygons

Can I derive and use the sum of angles in a triangle to deduce the angle rules for polygons?
Can I recall and/or derive the properties of quadrilaterals, including square, rectangle, parallelogram, trapezium, kite and rhombus?

Y10 SPRING 6

Equations

How do I square a negative number on my calculator?
Do I know how to substitute values for variables with and without my calculator?
What steps do I use to solve linear equations?

Y10 SPRING 7

Standard form

Do I recognise when a number is in standard form and can I convert it to an ordinary number?
How do I convert numbers to standard form?
How do I calculate with numbers in standard form with and without my calculator?

Y10 SPRING 9

Indices

Can I recall squares and square roots up to 15×15 , and recognise powers of 2, 3, 4, 5?
Can I calculate with roots, and with integer indices both with and without a calculator?
What are the rules for multiplying and dividing numbers and expressions with indices?
What is the difference between evaluating and simplifying?

Y10 SPRING 8

Basic Probability

How do I record, describe and analyse the frequency of outcomes of probability experiments using tables and frequency trees?
How do I apply the property that the probabilities of an exhaustive set of outcomes sum to 1?
How do I construct theoretical possibility spaces for single and combined experiments with equally likely outcomes and use these to calculate theoretical probabilities?

Y10 SUMMER 1

Transformations

How do I use tracing paper to rotate a shape around a centre point on a coordinate grid?
How do I reflect a shape through horizontal, vertical and diagonal axes?
How do I describe and apply translations as column vectors?
How can I use vectors to enlarge a shape from a centre of enlargement?
Can I identify and fully describe any transformation?

Y10 SUMMER 2

2D Representations of 3D shapes

What is meant by the plan and elevations of a 3d shape?
Can I draw the plan and elevations of common shapes?
How do I work out what the 3D shape is from the plan and elevations?

Y10 SUMMER 4

Congruence and Similarity

What are the basic congruence criteria for triangles?
What are the criteria for shapes to be similar?
How can I apply similarity to find missing sides and angles in similar shapes?

Y10 SUMMER 3

Calculating with Percentages

How do I calculate the percentage increase or decrease of an amount?
How do I calculate what percentage increase or decrease has been applied?
How do I reverse a percentage increase or decrease to find the original value?

Y10 SUMMER 5

Measures

Do I know the standard units for length, mass and volume/capacity?
How do I calculate the percentage of time, with and without a calculator?
How do I convert between related metric units?
How do I convert between related compound units, eg speed, density, pressure?

Y10 SUMMER 6

Constructions and Loci

Can I construct; perpendicular bisector, perpendicular to a line from/at a given point, angle bisector, and use these to construct given figures and solve loci problems?
Do I know that the perpendicular distance from a point to a line is the shortest distance to the line?

Y10 SUMMER 8

Statistical Measures

Do I know what the three averages are and how to find them from a list of data and from a table of data or graph?
Do I know how to find the range of a set of data?
What statistical measures would I use to compare two sets of data?
Do I know how to tell if a data may be biased or if my sample is too small?

Y10 SUMMER 7

Y11