Heathfield Community College

Mathematics Pathway 234

Year 11

- Use positive integer powers and roots, recognise powers of 2, 3, 4 and 5
- Add and subtract fractions with different denominators
- Solve ratio and proportion problems in a variety of different contexts
- Find any percentage or fraction of a quantity
- Solve 2 step linear equations
- Expand single brackets and factorise expressions into single brackets
- Use the form y = mx + c to draw straight line graphs
- Calculate area of compound shapes made of rectangles and triangles
- Calculate volume and surface area of cuboids
- Transform a shape by reflection, rotation, translation and enlargement

Year 10

- Write a number as a product of its prime factors
- Multiply 2 and 3 digit numbers
- Identify and work with fractions in ratio problems
- Find a percentage of an amount with and without a multiplier
- Order fractions by using equivalent fractions or decimal/percentage conversion
- Simplify expressions with more than one unknown
- Solve 1 step linear equations
- Identify circle properties including: centre, radius, chord, diameter, circumference
- Identify and use alternate, corresponding and co-interior angles on parallel lines
- Find probabilities of two events using two way tables and Venn Diagrams

Year 9

- Recognise sequences of triangular, square and cube numbers, and simple arithmetic progressions
- Apply the four operations to integers both positive and negative and to decimals
- Find highest common factors and lowest common multiples
- Solve simple direct proportion problems
- Divide a quantity into a given ratio and apply ratio to real contexts
- Substitute positive integers into simple formulae and expressions
- Simplify algebraic expressions with one unknown
- Calculate area of compound shapes made from rectangles
- Use the sum of angles in triangles and quadrilaterals
- Find the probability of a single event

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Pathway 3

Year 8

- Use positive integer powers and roots
- Express one quantity as a fraction of another and find a fraction of an amount
- Find simple percentages of an amount
- Understand equivalence of simple fractions, decimals and percentage
- Use ratio notation and reduce a ratio to its simplest form
- Plot coordinates in all 4 quadrants
- Generate terms of a sequence from a term-to-term or position-to-term rule
- Calculate area and perimeter of triangles
- Apply the properties of angles at a point, on a straight line and vertically opposite angles
- Use standard units of mass, length, time, money and other measures

Year 7

- Understand and use place value with large numbers and decimals
- Multiply and divide with 1 and 2 digit numbers
- Order positive and negative integers and decimals
- Estimate answers and check calculations using approximation
- Find/define prime numbers, factors, multiples, common factors and common multiples
- Simplify fractions and find equivalent fractions
- Define a percentage
- Plot positive coordinates
- Translate between worded descriptions and algebraic expressions
- Calculate area and perimeter of rectangles