

**CE Mathematics Syllabus at 13+: Tick Sheet**  
**Levels 1, 2 and 3**

**Level 1: Number and Algebra:**

Content	Taught/Revised/Understood	Date
4 number operations including 3 digits by 2 digits		
x and divide by numbers less than 1 eg $40 \times 0.3$ or 600 divided by 0.3 + and – decimals to 2 places		
Percentages eg find 60% of £500		
Fractions – recognise 8 out of 16 = $\frac{1}{2}$ , simplifying fractions, finding $\frac{4}{5}$ of 60kg, + and – fractions (no mixed numbers used and no x or divide)		
Definitions – multiples, factors, square, square numbers, cube numbers, square roots		
Know Co-ordinates in all quadrants		
Know prime numbers up to 20		
X decimals by 10,100,1000		
+ and – negative numbers		
Understand BIDMAS eg $3 \times 4 + 5 = 17$		
Ratio eg 150 ml of concentrated juice makes 500ml of orange juice. How much is needed to make 750 ml of orange juice.		
Algebra – forming equations, substitution, simplifying, multiplying out one bracket, factorising without indices, solving (eg $3x - 4 = 8$ )		
Product of prime factors using indices		
Changing between fractions, decimals and percentages and be able to put $\frac{2}{7}$ , 30% and 0.29 in ascending or descending order		
Sequences – can find and describe in <b>words</b> the rule for the next term or nth term		
Drawing graphs of $y = 5$ , $y = -4$ , $y = x + 5$ , $y = 3x - 1$		

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**Level 1: Shape, Space and Measures:**

Content	Taught/Revised/Understood	Date
Construct triangles using compasses and a protractor		
Reflect shapes including diagonal mirror lines		
Know relationship between km, m, cm, mm and tonne, kg, g, mg and litre, cl, ml and know that 8km = 5 miles		
Find perimeters and areas – including triangles and parallelograms		
Find volumes by counting cubes or using formulae sheet (provided)		
Understand the 8 points of the compass		
Rotation and Translation, Congruency and orders of rotational symmetry ( not enlargement)		
Draw nets		
Draw 3D shapes by joining together faces and edges		
Angles – angles along a straight line and angles around a point		
Angles and Parallel lines		
Understand area and circumference of a circle		

**Level 1: Handling Data:**

Content	Taught/Revised	Date
Bar charts, venn diagrams, tally charts, pictograms		
Mode, Mean, Median and Range		
Interpret conversion graphs		
Probability		
Interpret Pie Charts (not constructing)		
Interpret Scatter graphs and understand correlation		

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**Level 2: Number and Algebra:**

Content	Taught/Revised/Understood	Date
4 number operations including 3 digits by 2 digits		
x and divide by numbers less than 1 eg $40 \times 0.3$ or 600 divided by 0.3. + and – decimals to 2 places		
Percentages eg find 60% of £500 Percentage change eg a TV was bought for £300 and then sold for £245. What was the percentage discount?		
Fractions – recognise 8 out of 16 = $\frac{1}{2}$ , simplifying fractions, finding $\frac{4}{5}$ of 60kg, + and – fractions (no mixed numbers used and no x or divide)		
Definitions – multiples, factors, square, square numbers, cube numbers, square roots		
Know Co-ordinates in all quadrants		
Know prime numbers up to 20		
X decimals by 10,100,1000 x and dividing decimals by numbers between 0 and 1 eg $60 \times 0.7$		
+ and – negative numbers		
Understand BIDMAS eg $3 \times 4 + 5 = 17$		
Ratio eg 150 ml of concentrated juice makes 500ml of orange juice. How much is needed to make 750 ml of orange juice. Ratio – harder problems eg adapt a recipe for 6 people to 8 people		
Algebra – forming equations, substitution, simplifying, multiplying out one bracket, factorising without indices, solving equations		
Product of prime factors using indices		
Changing between fractions, decimals and percentages and be able to put $\frac{2}{7}$ , 30% and 0.29 in ascending or descending order		
Drawing graphs of $y = 5$ , $y = -4$ , $y = x + 5$ , $y = 3x - 1$		
Sequences – eg find the 100 <sup>th</sup> term - won't need to write the nth term algebraically but need to explain in words how it works		
Rounding numbers off to 1 sig fig		
Use the bracket button on the calculator		

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**Level 2: Shape, Space and Measures:**

Content	Taught/Revised/Understood	Date
Construct triangles using compasses and a protractor		
Reflect shapes including diagonal mirror lines		
Know relationship between km, m, cm, mm and tonne, kg, g, mg and litre, cl, ml and know 8km = 5 miles		
Find perimeters and areas – including triangles and parallelograms		
Find volumes by knowing $L \times D \times W = \text{volume}$		
Understand the 8 points of the compass		
Rotation and Translation, Congruency and orders of rotational symmetry		
Draw nets		
Draw 3D shapes by joining together faces and edges		
Angles – angles along a straight line and angles around a point		
Angles and Parallel lines		
Be able to use isometric paper		
Recognise and know the properties of: square, rectangle, trapezium, kite, parallelogram, rhombus		
Know the names of regular polygons up to 10 and be able to calculate the interior and exterior angles		
Enlargement and area (if the scale factor is 3 then the area increases by a factor of 9)		
Understand bearings and scale drawings		

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**Level 2: Handling Data:**

<b>Content</b>	<b>Taught/Revised/Understood</b>	<b>Date</b>
Bar charts, venn diagrams, tally charts, pictograms, frequency charts		
Mode, Mean, Median and Range		
Interpret conversion graphs		
Probability		
Interpret and Construct Pie Charts – angles or percentages maybe used		
Interpret Scatter graphs and understand correlation and line of best fit		
Construct and interpret frequency diagrams		

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**Levels 1, 2 and 3**

**Level 3: Number and Algebra:**

Content	Taught/Revised/Understood	Date
4 number operations including 3 digits by 2 digits		
x and divide by numbers less than 1 eg $40 \times 0.3$ or 600 divided by 0.3. + and – decimals to 2 places		
Percentages eg find 60% of £500 Percentage change eg a TV was bought for £300 and then sold for £245. What was the percentage discount?		
Fractions – recognise 8 out of 16 = $\frac{1}{2}$ , simplifying fractions, finding $\frac{4}{5}$ of 60kg, + and – fractions Multiply and divide fractions including mixed numbers		
Definitions – multiples, factors, square, square numbers, cube numbers, square roots		
Know Co-ordinates in all quadrants		
Know prime numbers up to 20		
X decimals by 10,100,1000 x and dividing decimals by numbers between 0 and 1 eg $60 \times 0.7$		
+ and – negative numbers		
Understand BIDMAS eg $3 \times 4 + 5 = 17$		
Ratio eg 150 ml of concentrated juice makes 500ml of orange juice. How much is needed to make 750 ml of orange juice. Ratio – harder problems eg adapt a recipe for 6 people to 8 people		
Algebra – forming equations, substitution, simplifying, multiplying out brackets, factorising without indices, solving complex equations		
Algebra – factorising with indices, solving with algebraic fractions, expanding with fractions		
Trial and Improvement		
Product of prime factors using indices		
Changing between fractions, decimals and percentages and be able to put $\frac{2}{7}$ , 30% and 0.29 in ascending or descending order		
Drawing graphs of $y = 5$ , $y = -4$ , $y = x + 5$ , $y = 3x - 1$ Construct $y = x^2 + 2x$ and $y = x + 4$ and find the co-ordinates of the points of intersection		
Sequences – nth term algebraically and quadratic		

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sequences		
Solving Simultaneous Equations – algebraically and graphically		
Rounding numbers off to 1 sig fig		
Use the bracket button on the calculator		
Solve simple inequalities		

**Level 3: Shape, Space and Measures:**

Content	Taught/Revised/Understood	Date
Construct triangles using compasses and a protractor		
Reflect shapes including diagonal mirror lines		
Know relationship between km, m, cm, mm and tonne, kg, g, mg and litre, cl, ml and know that 8km = 5 miles		
Find perimeters and areas – including triangles and parallelograms		
Find volumes including Volume of a right angled cylinder and Prisms		
Draw 3D shapes by joining together faces and edges		
Understand the 8 points of the compass		
Rotation and Translation, Congruency and orders of rotational symmetry		
Draw nets		
Angles – angles along a straight line and angles around a point		
Angles and Parallel lines		
Be able to use isometric paper		
Recognise and know the properties of: square, rectangle, trapezium, kite, parallelogram, rhombus		
Know the names of regular polygons up to 10 and be able to calculate the interior and exterior angles		
Enlargement and area (if the scale factor is 3 then the area increases by a factor of 9)		
Understand bearings and scale drawings		

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Find the radius of a circle given the circumference or area		
Understand and apply Pythagoras's Theorem		
Speed – including average speeds of a multi-stage journey		

**Level 3: Handling Data:**

<b>Content</b>	<b>Taught/Revised/Understood</b>	<b>Date</b>
Bar charts, venn diagrams, tally charts, pictograms, frequency charts		
Mode, Mean, Median and Range		
Interpret conversion graphs		
Probability		
Interpret and Construct Pie Charts – angles or percentages maybe used		
Interpret Scatter graphs and understand correlation and line of best fit		
Construct and interpret frequency diagrams		