



Year 8 Homelink

Term Two

Subject Area	Classwork/Homework	Period of Study	Examined
Geometry 2: Area and Volume	Metric conversions: Chapter 14, Course text	2 weeks	Practice questions from text. Class Test at End of January
Algebra 3: Straight Line Graphs,	Linear functions Chapter 10, Course text	2 weeks	Homework and Class Test
Number 3 and 4: Calculation	Mental calculation exercises. Further metric conversions Decimal notation and place value. Number Support 1, Course text	2 weeks	Exercises from text Class test
Handling Data 2: Collecting, representing and interpreting data	Mean, Mode and Median. Stat. graphs. Correlation Chapter 16 course text	2 weeks	Homework and Class Tests
Algebra 4: Solving Equations	Simple linear equations . Substitution and change of subject	2 weeks	Homework and Class Tests
	Revision and Review	1 week	March End of Term One Exam

Assessment Criteria

Assessment criteria	Percentage Value
Homework	20%
Class work	20%
Attendance	5%
Participation	5%
End of Term Examination	50%

Course Outline and Attainment Targets Year 8

Term 2

Curriculum Area	Duration of Study	Attainment Target
<p>Geometry 2: Area and Volume</p>	<p>2 weeks</p>	<ul style="list-style-type: none"> ◆ To convert one metric unit to another. ◆ To read and interpret scales on a range of measuring instruments. ◆ To use units of measurement to estimate, calculate and solve problems in everyday contexts (volume, area, length, capacity, mass, time & angle). ◆ To know rough metric equivalents of imperial measures (feet, miles, pounds, pints, gallons) ◆ To convert between area measures and volume measures. ◆ To know and use the formula for the area of a rectangle. ◆ To calculate the perimeter and area of shapes made from rectangles. ◆ To deduce and use the formula for the area of a triangle. ◆ To deduce and use the formula for the area of a parallelogram. ◆ To deduce and use the formula for the area of a trapezium. ◆ To calculate the area of compound shapes made from rectangles and triangles. ◆ To know and use the formula for the circumference and area of a circle. ◆ To calculate the surface area of cubes and cuboids. ◆ To know and use the formula for the volume of a cuboid. ◆ To calculate volume and surface area of shapes made from cuboids. <p>To calculate the surface area and volume of right prisms.</p>
<p>Algebra 3: Straight Line Graphs</p>	<p>2 weeks</p>	<ul style="list-style-type: none"> ◆ To express simple functions in words. ◆ To express simple functions in symbols. ◆ To represent mappings expressed algebraically. ◆ To find the inverse of a linear function. ◆ To generate co-ordinate pairs that satisfy a simple linear rule.

<p>Number 3 and 4:</p> <p>Calculation</p>	<p>2 weeks</p>	<ul style="list-style-type: none"> ◆ To recognise straight line graphs parallel to the x or y-axis. ◆ To generate points in all 4 quadrants. ◆ To plot the graphs of linear functions where y is given explicitly. ◆ To plot the graphs of linear functions using ICT. ◆ To recognise that equations of the form $y = mx + c$ correspond to straight line graphs. ◆ To plot graphs of linear functions where y is given implicitly. ◆ To find the gradient of lines given by $y = mx + c$. ◆ To construct linear functions arising from real life problems and plot their corresponding graphs. ◆ To discuss and interpret graphs arising from real situations. <p>To discuss and interpret distance-time graphs.</p> <ul style="list-style-type: none"> ◆ To understand and use decimal notation and place value. ◆ To multiply and divide integers and decimals by 10, 100 & 1000. ◆ To read and write positive integer powers of 10. ◆ To multiply and divide by any integer power of 10. ◆ To multiply and divide integers and decimals by 0.1 and 0.01. ◆ To order decimals. ◆ To understand addition and subtraction of fractions. ◆ To understand the effects of multiplying and dividing by numbers between 0 and 1. ◆ To use the order of operations with more complex calculations. ◆ To round positive numbers to the nearest 10, 100 or 1000. ◆ To round decimals to the nearest whole number or 1 decimal place. ◆ To round positive numbers to any given power of 10. ◆ To round decimals to nearest integer, 1 dp or 2 dp. ◆ To consolidate and extend mental methods of calculation to include decimals, fractions and percentages. ◆ To consolidate and extend mental methods of calculation, to include decimals, squares and square roots, cubes and cube roots. ◆ To extend mental methods of calculations to include factors, powers &
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<p>Handling Data 2:</p> <p>Collecting, representing and interpreting data</p>	<p>2 weeks</p>	<p>roots.</p> <ul style="list-style-type: none"> ◆ To convert one metric unit to another. ◆ To make and justify estimates and approximations of calculations. ◆ To use units of measurement to estimate, calculate and solve problems in everyday contexts. ◆ To consolidate standard column procedures for adding and subtracting integers and decimals of up to 2 places. ◆ To consolidate standard column procedures for adding and subtracting integers and decimals of any size, and with differing numbers of decimal places. ◆ To multiply and divide 3 digit by 2 digit whole numbers. ◆ To multiply and divide decimals with 1 or 2 places by single digit whole numbers. ◆ To use standard column procedures for multiplying and dividing integers and decimals including by decimals such as 0.6 or 0.06. ◆ To understand where to position the decimal point by considering equivalent calculations. ◆ To multiply and divide by decimals by comparing to division by an integer. ◆ To check a result by considering whether it is of the right order of magnitude and by working the problem backwards. ◆ To carry out calculations with more than one step using brackets and the memory key. ◆ To know how to use the sign change, power, root and fraction keys. ◆ To know not to round answers during intermediate stages of calculation. ◆ To enter numbers and interpret the display of a calculator. <ul style="list-style-type: none"> ◆ To identify possible questions and sub-questions to explore. ◆ To select appropriate data to collect and consider the degree of accuracy required. ◆ To identify possible primary and secondary sources of data. ◆ To design a data collection sheet or questionnaire. ◆ To plan how to collect a data set, including the sample size. ◆ To construct frequency tables for discrete data. ◆ To design and use 2 way tables for discrete data.
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<p>Algebra 4: Solving Equations</p>	<p>2 weeks</p>	<ul style="list-style-type: none"> ◆ To find the mean, mode, median and range for small sets of discrete data. ◆ To find the mean from a frequency table. ◆ To recognise when it is appropriate to use the mean, mode, median & range. ◆ To construct and use stem and leaf diagrams. ◆ To construct bar-line graphs. ◆ To use ICT to generate pie charts. ◆ To construct pie charts, bar charts, frequency diagrams and scatter graphs on paper and using ICT. ◆ To identify which graphs are most useful in the context of a problem. ◆ To interpret tables, calculations, graphs and diagrams and draw inferences that relate to the problem being discussed. ◆ To interpret graphs and diagrams and draw inferences to support or cast doubt on initial conjectures. ◆ To have a basic understanding of correlation. <p>To produce a short oral or written report on the results of a statistical enquiry</p> <ul style="list-style-type: none"> ◆ To use letter symbols to represent unknown numbers or variables. ◆ To know the meanings of the words term, expression & equation. ◆ To understand the different roles of letters in formulae, functions and equations (variable vs unknown). ◆ To construct and solve simple linear equations with integer co-efficients, unknown on one side only (using INVERSE operations). ◆ To construct and solve linear equations with unknown on either or both sides, with and without brackets (using INVERSE operations, transforming both sides in the same way). ◆ To construct and solve equations with negative signs anywhere in the equation and a positive or negative solution. ◆ To substitute into simple formulae from maths and elsewhere, including examples that lead to an equation to solve. ◆ To derive simple formulae. <p>To change the subject of a formula in simple cases.</p>
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