

# Revision for Year 7 Maths Exams 7A4 & 7B3

**Exams:** You will sit two one hour papers.  
The first will be non-calculator and the second calculator.

This booklet lists all of the topics that you have covered in your Maths lessons this year – if there is anything you are unsure about make sure you ask your Maths teacher.

## Maths Revision Tips

- The only way to revise for Maths is to **DO** Maths! Some time making notes can be useful but most of your time must be spent answering questions, the websites below will be helpful for this;
  - **MyMaths**      <https://mymaths.co.uk>  
login: southam      password: integer1
  - **BBC Bitesize**      <https://www.bbc.com/education>
  - **EMaths**      <https://emaths.co.uk/>  
This has the old style SATS papers but they are still a good way to practice your Maths.
- Start with the topics you find most difficult, going over things you can already do is a waste of your time.
  - Get help if you don't understand something.
- Practice using your calculator – it is important that you know how YOUR calculator works as they are all different.

Mode, median and range	<ul style="list-style-type: none"> <li>Find the mode, median and range for a set of data</li> </ul>
Displaying Data	<ul style="list-style-type: none"> <li>Find information from tables and diagrams</li> <li>Display data using tally charts, tables, bar charts and bar-line charts</li> </ul>
Grouping Data	<ul style="list-style-type: none"> <li>Interpret simple charts for grouped data</li> <li>Find the modal class for grouped data</li> </ul>
Averages and Comparing Data	<ul style="list-style-type: none"> <li>Calculate the mean of a set of data</li> <li>Compare sets of data using their ranges and averages</li> </ul>
Line graphs and more bar charts	<ul style="list-style-type: none"> <li>Understand and draw line graphs</li> <li>Understand and draw dual and compound bar charts</li> </ul>
Using spreadsheets	<ul style="list-style-type: none"> <li>Analyse and present data using spreadsheets</li> </ul>
The language of probability	<ul style="list-style-type: none"> <li>Use the language of probability</li> <li>Use a probability scale with words</li> <li>Understand the probably scale from 0 to 1</li> </ul>
Calculating probability	<ul style="list-style-type: none"> <li>Identify outcomes and equally likely outcomes</li> <li>Calculate probabilities</li> <li>Use a probability scale from 0 to 1</li> </ul>
More probability calculations	<ul style="list-style-type: none"> <li>Calculate more complex probabilities</li> <li>Calculate the probability of an event not happening</li> </ul>
Experimental probability	<ul style="list-style-type: none"> <li>Record data from a simple experiment</li> <li>Estimate probability based on experimental data</li> <li>Make conclusions based on the results of an experiment</li> </ul>
FINANCE: Expected outcomes	<ul style="list-style-type: none"> <li>Use probability to estimate the number of expected wins in a game</li> <li>Apply probabilities from experimental data in simple situations</li> </ul>
Mental maths	<ul style="list-style-type: none"> <li>Use the priority of operations, including brackets</li> <li>Use multiplication facts up to <math>10 \times 10</math> and the laws of arithmetic to do mental multiplication and division</li> <li>Multiply and divide by 10, 100 and 1000</li> </ul>
Addition and subtraction	<ul style="list-style-type: none"> <li>Round whole numbers to the nearest 10, 100 and 1000</li> <li>Make an estimate to check and answer</li> <li>Use a written method to add and subtract whole numbers of any size</li> </ul>
Multiplication	<ul style="list-style-type: none"> <li>Use a written method to multiply whole numbers</li> </ul>
Division	<ul style="list-style-type: none"> <li>Use a written method to divide whole numbers</li> <li>Use inverse operations to check and answer</li> </ul>
FINANCE: Time and money	<ul style="list-style-type: none"> <li>Round decimals to the nearest whole number</li> <li>Interpret the display on a calculator in different contexts</li> <li>Use a calculator to solve problems involving time and money</li> </ul>
Negative numbers	<ul style="list-style-type: none"> <li>Order positive and negative numbers</li> <li>Add and subtract positive and negative numbers</li> <li>Begin to multiply with negative numbers</li> </ul>
Factors, multiples and primes	<ul style="list-style-type: none"> <li>Use a calculator to explore divisibility</li> <li>Find all the factor pairs for any whole number</li> <li>Identify common factors, the highest common factor and the lowest common multiple</li> <li>Recognise prime numbers</li> </ul>
Square and triangle numbers	<ul style="list-style-type: none"> <li>Recognise square numbers and triangle numbers</li> <li>Use a calculator to find squares and square roots</li> <li>Use the priority of operations, including powers</li> <li>Use index notation for powers</li> <li>Do mental calculations with squares and square roots</li> </ul>

Functions	<ul style="list-style-type: none"> <li>Find outputs of simple functions written in words and using symbols</li> <li>Describe simple functions in words</li> </ul>
Simplifying expressions 1	<ul style="list-style-type: none"> <li>Simplifying simple linear algebraic expressions by collecting like terms</li> <li>Use arithmetic operations with algebra</li> </ul>
Simplifying expressions 2	<ul style="list-style-type: none"> <li>Use brackets with numbers and letters</li> <li>Simplify more complicated expressions by collecting like terms</li> </ul>
Writing expressions	<ul style="list-style-type: none"> <li>Write expressions from word descriptions using addition, subtraction and multiplication</li> <li>Write expressions to represent function machines</li> </ul>
STEM: Substituting into formulae	<ul style="list-style-type: none"> <li>Substitute positive integers into simple formulae written in words</li> <li>Substitute integers into formulae written in letter symbols</li> </ul>
Writing formulae	<ul style="list-style-type: none"> <li>Identify variables and use letter symbols</li> <li>Write simple formulae using letter symbols</li> <li>Identify formulae and functions</li> <li>Identify the unknowns in a formula and a function</li> </ul>
Decimals and rounding	<ul style="list-style-type: none"> <li>Measure and draw lines to the nearest millimetre</li> <li>Write decimals in order of size</li> <li>Round decimals to the nearest whole number and to one decimal place</li> <li>Round decimals to make estimates and approximations of calculations</li> </ul>
Length, mass and capacity	<ul style="list-style-type: none"> <li>Convert measurements into the same units to compare them</li> <li>Solve simple problems involving units of measurement in the context of length</li> <li>Convert between metric units of length, mass and capacity</li> </ul>
Scales and co-ordinates	<ul style="list-style-type: none"> <li>Read scales on a range of measuring equipment</li> <li>Interpret the display of a calculator in different contexts</li> <li>Interpret metric measures displayed on a calculator</li> <li>Plot and read coordinates in all four quadrants</li> </ul>
Working with decimals mentally	<ul style="list-style-type: none"> <li>Multiply decimals mentally</li> <li>Check a result by considering whether it is of the right order of magnitude</li> <li>Understand where to position the decimal point by considering equivalent calculations</li> </ul>
Working with decimals	<ul style="list-style-type: none"> <li>Add and subtract decimals</li> <li>Multiply and divide decimals by single digit whole numbers</li> </ul>
Perimeter	<ul style="list-style-type: none"> <li>Work out the perimeter of shapes</li> <li>Solve perimeter problems</li> </ul>
Area	<ul style="list-style-type: none"> <li>Find areas by counting squares</li> <li>Calculate the areas of squares and rectangles</li> <li>Calculate the areas of shapes made from rectangles</li> <li>Solve problems involving area</li> </ul>
STEM: More units	<ul style="list-style-type: none"> <li>Choose suitable units to estimate length and area</li> <li>Use units of measurement to solve problems</li> <li>Use metric and imperial units</li> </ul>

Comparing fractions	<ul style="list-style-type: none"> <li>Use fraction notation to describe parts of a shape</li> <li>Compare simple fractions</li> <li>Use a diagram to compare two or more simple fractions</li> </ul>
Simplifying fractions	<ul style="list-style-type: none"> <li>Change an improper fraction to a mixed number</li> <li>Identify equivalent fractions</li> <li>Simplify fractions by cancelling common factors</li> </ul>
Working with fractions	<ul style="list-style-type: none"> <li>Add and subtract simple fractions</li> <li>Calculate simple fractions of quantities</li> </ul>
Fractions and decimals	<ul style="list-style-type: none"> <li>Work with equivalent fractions and decimals</li> <li>Write one number as a fraction of another</li> </ul>
Understanding percentages	<ul style="list-style-type: none"> <li>Understand percentages as 'the number of parts per 100'</li> <li>Convert percentage to a number of hundredths or tenths</li> <li>Work with equivalent percentages, fractions and decimals</li> </ul>
Percentages of amounts	<ul style="list-style-type: none"> <li>Use different strategies to calculate with percentages</li> <li>Express one number as a percentage of another</li> </ul>
Direct proportion	<ul style="list-style-type: none"> <li>Use direct proportion in simple contexts</li> <li>Solve simple problems involving direct proportion</li> <li>Use the unitary method to solve simple word problems involving direct proportion</li> </ul>
Writing ratios	<ul style="list-style-type: none"> <li>Use ratio notation</li> <li>Reduce a ratio to its simplest form</li> <li>Reduce a three part ratio to its simplest form by cancelling</li> </ul>
Using ratios	<ul style="list-style-type: none"> <li>Divide a quantity into two parts in a ratio given in words</li> <li>Divide a quantity into two parts in a given ratio</li> <li>Solve word problems involving ratio</li> </ul>
Scale and measure	<ul style="list-style-type: none"> <li>Use ratios and measures</li> </ul>
Proportions and fractions	<ul style="list-style-type: none"> <li>Use fractions to describe and compare proportions</li> <li>Understand and use the relationship between ratio and proportion</li> </ul>
Proportions and percentages	<ul style="list-style-type: none"> <li>Use percentages to describe proportions</li> <li>Use percentages to compare simple proportions</li> <li>Understand and use the relationship between ratio and proportion</li> </ul>
Lines, angles and triangles	<ul style="list-style-type: none"> <li>Describe and label lines, angles and triangles</li> <li>Identify angle, side and symmetry properties of triangles</li> </ul>
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Estimating, measuring and drawing angles	<ul style="list-style-type: none"> <li>Use a protractor to measure and draw angles</li> <li>Estimate the size of angles</li> <li>Solve problems involving angles</li> </ul>
Drawing triangles accurately	<ul style="list-style-type: none"> <li>Use a ruler and protractor to draw triangles accurately</li> <li>Solve problems involving angles and triangles</li> </ul>
STEM: Calculating angles	<ul style="list-style-type: none"> <li>Use the rule for angles on a straight line, angles around a point and vertically opposite angles</li> <li>Solve problems involving angles</li> </ul>
Angles in a triangle	<ul style="list-style-type: none"> <li>Use the rule for the sum of angles in a triangle</li> <li>Calculate interior and exterior angles</li> <li>Solve angle problems involving triangles</li> </ul>
Quadrilaterals	<ul style="list-style-type: none"> <li>Identify and name types of quadrilaterals</li> <li>Use the rule for the sum of angles in a quadrilateral</li> <li>Solve angle problems involving quadrilaterals</li> </ul>