



Year 7 Mathematics Revision Guide

We sincerely believe that the work completed in lessons and for homework will help students to be successful in their maths studies this year. This document can be used to give students that little bit of extra support or guidance that could enable them to do even better. Please feel free to use this document at your own discretion.

This document can be used for the following purposes:

- For students to identify their own strengths and weaknesses.
- To guide students to a video clip that will strengthen your understanding of a certain topic.
- To inform parents of what is being learnt in school and different times of the year.

Students will take an assessment at the end of every topic. These scores will not be reported home but the outcomes will be reflected in the termly progress reports sent home. Students will find these results out shortly after the test is taken when they will also identify their areas of strength and the skills they need to improve on. Students will also take an end of year assessment covering units 1 to 9 after May half-term. This along with their performance in the individual topic assessments will help inform us on how students have progressed during the academic year.

Year 7 at a glance

The schedule on the next page indicates which topic is being taught during each school week of this year. This is a rough guideline only as some classes may take slightly longer on some units than others. Some students have more than one teacher who may cover different units of work. For example, a student with two maths teachers may start the year learning unit 1 with one teacher and unit 2 with the other.

		You will be learning...
Week	Date W/C	Y7
A	05/09/2022	
B	12/09/2022	1: Analysing and displaying data
A	19/09/2022	
B	26/09/2022	
A	03/10/2022	
B	10/10/2022	2: Number skills
A	17/10/2022	
		October half term
B	31/10/2022	3: Expressions, functions and formulae
A	07/11/2022	
B	14/11/2022	
A	21/11/2022	
B	28/11/2022	
A	05/12/2022	4: Decimals and measures
B	12/12/2022	
		Christmas holidays
A	02/01/2023	5: Fractions and percentages
B	09/01/2023	
A	16/01/2023	
B	23/01/2023	6: Probability
A	30/01/2023	
B	06/02/2023	
		February half term
A	20/02/2023	7: Ratio and proportion
B	27/02/2023	
A	06/03/2023	
B	13/03/2023	
A	20/03/2023	8: Lines and angles
B	27/03/2023	
		Easter holidays
A	17/04/2023	8: Lines and angles
B	24/04/2023	
A	01/05/2023	
B	08/05/2023	9: Sequences and graphs
A	15/05/2023	
B	22/05/2023	
		Summer half term
A	05/06/2023	Revision & EOY Exams - Units 1 to 9
B	12/06/2023	
A	19/06/2023	
B	26/06/2023	10: Transformations
A	03/07/2023	
B	10/07/2023	
A	17/07/2023	Curriculum Enrichment Week

Hegartymaths video clips

All students have access to the website [hegartymaths.com](https://www.hegartymaths.com). When they first log in, they need to create their own password. If they forget their password, they need to click the 'forgotten password' link when they try to log in. Their teacher will then be able to unlock their account so they can create their own more memorable password!




Using hegartymaths as a revision tool:

- Identify a topic from the subsequent pages of this document that you would either like to improve on from the pages in the rest of this document. You could even select something you have not been taught yet and get a head start!
- Type the clip number in to the search box once you have logged in to [hegartymaths.com](https://www.hegartymaths.com)
- Have ago at the quiz. If it is too difficult, watch the video.
- If it is still too difficult, go to one of the building blocks clips listed beneath the clip
- If you get stuck on the odd question, click the 'get help' button after getting your first attempt wrong.




The screenshot displays the Hegarty Maths website interface. At the top, there is a logo for 'Hegarty Maths' and a video player titled '100 - Cube numbers'. The video player shows a play button and the text 'Cube numbers'. Below the video player, there is a green box with the text 'Key words: Power, square, cube.' To the right of the video player, there is a sidebar with the following information: '100 - Cube numbers', 'Learn what a cube number is and which numbers are cube number', 'Video watched 0.01x', 'Your score 100% HegartyMaths avg 83%', 'Last learned 13:56 Wed 8th Sep 21', 'Completed in 1min', 'Feedback 0 (0 new)', and a 'View assessment' button. Below the sidebar, there are two buttons: 'Do quiz' (green) and 'Preview questions' (blue). At the bottom of the page, there is a 'Building blocks' section. This section is highlighted with a red oval. It contains a 'Question preview' box with the text 'What is the 15th square number?' and a '99 - Square numbers' clip. The clip information includes 'Number > Indices, powers & roots', '99 - Square numbers', 'Video watched 0.00x', and 'Your score New lesson HegartyMaths avg 90%'. There is also a right arrow button in the bottom right corner of the 'Building blocks' section.

Students should all be able to navigate their way around the hegartymaths website as their teacher would have demonstrated it in class. Students finding this difficult should ask their teacher who will be more than happy to help.

Progress Checklist – Analysing and Displaying Data




	Objective	Hegarty clips			
1.1	Find the mode, median and range of a set of data	404, 409, 410			
1.2a	Find information from tables and diagrams	425, 414, 415			
1.2b	Display data using tally charts, tables, bar charts and bar-line graphs	401, 425			
1.3a	Interpret simple charts for grouped data	414, 415			
1.3b	Find the modal class for grouped data	415			
1.4a	Calculate the mean of set of data	405-408			
1.4b	Compare sets of data using their range and averages				
1.5a	Understand and draw line graphs	450			
1.5b	Understand and draw dual and compound bar charts	425			

Progress Checklist – Number skills




	Objective	Hegarty clips			
2.1a	Use the priority of operations, including brackets (Core & Depth only)	24			
2.1b	Use multiplication facts up to 10 x 10 and the laws of arithmetic to do mental multiplication and division	10			
2.1c	Multiply by multiples of 10, 100 and 1000	15			
2.1d	Use the priority of operations (Support only)				
2.2a	Make an estimate to check an answer (Core & Depth only)	131			
2.2b	Use inverse operations to check an answer (Core & Depth only)				
2.2c	Use a written method to add and subtract numbers of any size	18, 19			
2.2d	Round whole numbers to the nearest, 10 000, 100 000 and 1 000 000. (10, 100, 1000 for support)	17			
2.3a	Use an estimate to check an answer to a multiplication (Core & Depth only)	131			
2.3b	Use a written method to multiply whole numbers	21, 143			
2.4a	Use a written method to divide whole numbers	145			
2.4b	Use inverse operations to check an answer (Core & Depth only)				
2.5a	Round money to the nearest pound or penny				
2.5b	Interpret the display on a calculator in different contexts				
2.5c	Use a calculator to solve problems involving money and time	752 – 754			
2.6a	Order positive and negative numbers	37			
2.6b	Add and subtract positive and negative numbers	41			
2.6c	Begin to multiply with negative numbers (Core & Depth only)	42			

2.7a	Find all the factor pairs of any whole number	27			
2.7b	Identify common factors, the highest common factor and the lowest common multiple	31, 34			
2.7c	Recognise prime numbers	28			
2.8a	Recognise square numbers	99			
2.8b	Use a calculator to use squares and square roots				
2.8c	Use the priority of operations including powers	120, 150			
2.8d	Use index form for powers (Core & Depth only)	102			
2.8e	Do mental calculations with squares and square roots (Core & Depth only)	101			

Progress Checklist – Expressions, functions and formulae




	Objective	Hegarty clips			
3.1a	Find outputs of simple functions, written in words and using symbols	151-153			
3.1b	Describe simple functions in words	151 – 153			
3.2a	Use letters to represent unknowns in algebraic expressions	151 – 153			
3.2b	Simplify linear algebraic expressions by collecting like terms	156, 157			
3.3a	Multiply and divide algebraic terms	158, 159			
3.3b	Use brackets with numbers and letters	12, 160			
3.4a	Write expressions from word descriptions using addition, subtraction, multiplication and division	151-153			
3.4b	Write expressions to represent function machines	151-153			
3.5a	Substitute positive whole numbers into written formulae involving words	155			
3.5b	Substitute positive whole numbers into written formulae written with letters	153			
3.6a	Write simple formulae in words	155			
3.6b	Write simple formulae using letter symbols	155			
3.6c	Identify formulae and functions	154			
3.6d	Identify the unknowns in a formula and a function	154			

Progress Checklist – Decimals and measures

	Objective	Hegarty clips			
4.1a	Measure and draw lines to the nearest millimetre				
4.1b	Write decimals in order of size	46			
4.1c	Round decimals to the nearest whole number and to one decimal place (Core & Support)	56			
4.1d	Round decimals to make estimates and approximations to calculations (Core & Depth)	131			
4.2a	Multiply and divide by 10, 100 and 1000	15, 16			
4.2b	Convert measurements into the same units to compare them (Core & Depth only)	705, 706			




4.2c	Solve simple problems involving units of measurement in the context of length, mass and capacity (Core & Depth only)	692 - 698			
4.2d	Convert between metric units of length mass and capacity	692 - 698			
4.3a	Use scale diagrams	864			
4.3b	Read scales	864			
4.3c	Write decimal measures as two related units of measure (Core & Depth only)				
4.3d	Interpret metric measures displayed on a calculator (Core & Depth only)	705-706			
4.4a	Multiply decimals by multiples of 10, 100 and 1000	48			
4.4b	Multiply decimals mentally	15			
4.4c	Check a result by considering whether it is of the right order of magnitude (Core & Depth only)	135, 136			
4.4d	Understand where to position the decimal point by considering equivalent calculations	135, 136			
4.5a	Add and subtract decimals	47			
4.5b	Multiply and divide decimals by single digit whole numbers	48 – 50			
4.5c	Divide numbers that give decimal answers (Core & Depth only)	49			
4.6a	Work out the perimeter of composite shapes and polygons	551			
4.6b	Solve perimeter problems (Core & Depth only)	552			
4.7a	Find areas of irregular shapes by counting squares	553			
4.7b	Calculate the areas of shapes made from rectangles	555			
4.7c	Solve problems involving area (Core & Depth only)				
4.8a	Choose suitable units to measure length and area				
4.8b	Use units of measure to solve problems				
4.8c	Use metric and imperial units	705, 706			

Progress Checklist – Fractions and percentages




	Objective	Hegarty clips			
5.1a	Use fraction notation to describe parts of a shape	58			
5.1b	Compare simple fractions	60			
5.1c	Use a diagram to compare 2 or more simple fractions	60			
5.1d	Order fractions (Core & Support only))	60			
5.2a	Change an improper fraction to a mixed number	63,64			
5.2b	Identify equivalent fractions	59			
5.2c	Simplify fractions by dividing numerator and denominator by common factors	61			
5.3a	Add and subtract simple fractions	65,66			
5.3b	Calculate simple fractions of quantities	77			
5.4a	Work with equivalent fractions and decimals	73,74, 52			
5.4b	Write one quantity as a fraction of another	62			
5.5a	Understand percentages as ‘the number of parts per 100’	81			
5.5b	Convert a percentage to a fraction or decimal	82,83			

5.5c	Work with equivalent fractions, percentages and decimals (Core & Depth only)	149			
5.6a	Use different strategies to calculate with percentages	84,85			
5.6b	Express one quantity as a percentage of another (Core & Depth only)	75,76			

Progress Checklist - Probability




	Objective	Hegarty clips			
6.1a	Use the language of probability	349			
6.1b	Use the probability scale with words	349			
6.1c	Understand the probability scale from 0 to 1	350			
6.2a	Identify outcomes (and equally likely outcomes for Core & Depth)	351			
6.2b	Calculate probabilities	351			
6.2c	Use the probability scale from 0 to 1 (Core & Depth only)	350			
6.3a	Calculate more complex probabilities (Core & Depth only)	352			
6.3b	Use probability notation (Support only)				
6.3c	Calculate the probability of an event not happening	353			
6.4a	Record data from a simple experiment (Core & Depth only)				
6.4b	Estimate probability based on experimental data	356			
6.4c	Make conclusions based on the results of an experiment	356			
6.5a	Use probability to estimate expected number of times an outcome will occur	355			
6.5b	Apply probabilities from experimental data in simple situations				

Progress Checklist - Ratio and Proportion




	Objective	Hegarty clips			
7.1a	Use direct proportion in simple contexts	339			
7.1b	Solve simple problems involving direct proportion	340			
7.1c	Use the unitary method to solve simple word problems involving direct proportion (Core & Depth only)	341			
7.2a	Use ratio notation	328			
7.2b	Reduce a ratio to its simplest form	329			
7.2c	Reduce a three-part ratio to its simplest form by cancelling (Core & Depth only)	329			
7.3a	Find equivalent ratios (Core & Depth only)				
7.3b	Divide a quantity into two parts in a given ratio	332			
7.3c	Divide a quantity into two parts in a ratio given in words (Depth only)	333			
7.3d	Solve word problems involving ratio	335			
7.3e	Use ratios and measures (Core only)				

7.4a	Use fractions to describe and compare proportions				
7.4b	Understand and use the relationship between fractions, ratio and proportion	330			
7.5a	Use percentages to describe proportions				
7.5b	Use percentages to compare simple proportions				
7.5c	Understand and use the relationship between percentages, ratio and proportion	330			

Progress Checklist – Lines and angles




	Objective	Hegarty clips			
8.1a	Use a protractor to measure and draw angles	458-460			
8.1b	Recognise acute, obtuse and reflex angles (Core & Depth only)	455			
8.2a	Estimate the size of angles	457			
8.2b	Name, describe and label lines, angles and triangles	456			
8.2c	Identify angle and side properties of triangles	823			
8.3a	Use a ruler and protractor to draw triangles accurately	No clip			
8.4a	Use the rules for angles on a straight line, angles around a point and vertically opposite angles	477-491			
8.4b	Solve problems involving angles (Core & Depth only)	477-491			
8.5a	Use the rule for the sum of angles in a triangle	477-491			
8.5b	Calculate interior and exterior angles (Exterior angles only for Support)	561-564			
8.5c	Solve angle problems involving triangles (Core & Depth only)	477-491			
8.6a	Identify and name types of quadrilaterals	824			
8.6b	Use the rule for the sum of angles in a quadrilateral	560			
8.6c	Solve angle problems involving quadrilaterals	560			

Progress Checklist – Sequences and graphs

	Objective	Hegarty clips			
9.1a	Recognise, describe and continue number sequences	261			
9.1b	Generate terms of a sequence using a one-step term-to-term rule	197			
9.1c	Find missing terms in a sequence	264			
9.2a	Find patterns and rules in sequences	261			
9.2b	Describe how a pattern sequence grows	196			
9.2c	Write and use number sequences to model real-life problems (Core only)				
9.3a	Read and plot coordinates (Support only)	199			
9.3b	Generate and plot coordinates from a rule				
9.3c	Solve problems and spot patterns in coordinates (Core & Depth only)				
9.3d	Find the midpoint of a line segment	200			
9.4a	Describe and continue special sequences (Core & Depth only)	261			

9.4b	Use the term-to-term rule to work out more terms in a sequence	197			
9.4c	Recognise an arithmetic sequence and a geometric sequence.	264			
9.5a	Recognise, name and plot graphs parallel to the axes	205			
9.5b	Recognise, name and plot the graphs $y = x$ (and $y = -x$ for Core & Depth only)	205			
9.5c	Plot straight-line graphs using a table of values	206			
9.5d	Draw graphs to represent relationships (Core only)				
9.6a	Generate terms of a sequence using a position-to-term rule				
9.6b	Use linear expressions to describe the n th term of simple sequences	198			

Progress Checklist - Transformations

	Objective	Hegarty clips			
10.1a	Identify congruent shapes	680			
10.1b	Use the language of enlargement (Core & Depth only)	642			
10.1c	Enlarge shapes using given scale factors	642			
10.1d	Work out the scale factor given an object and its image	651			
10.2a	Recognise reflection and rotational symmetry in 2D shapes	827			
10.2b	Solve problems using line symmetry (Core & Depth only)	827			
10.2c	Identify all the symmetries of 2D shapes	828			
10.2d	Identify reflection symmetry in 3D shapes	829			
10.3a	Recognise and carry out reflections in a mirror line	639			
10.3b	Reflect a shape on a coordinate grid	640			
10.3c	Describe a reflection on a coordinate grid	652			
10.4a	Describe and carry out rotations on a coordinate grid	648/653			
10.5a	Translate 2D shapes	637			
10.5b	Translate 2D shapes by combinations of rotations, reflections and translations	656			