

Revising Maths

Mrs C Davies





1. Starting early.... (5-a-day)

“Little and Often” approach using the 5-a-day. The only way to remember what they learnt yesterday/last week/last month/last year is to regularly practise questions on those topics. The 5-a-day gives them a chance to do that. If they find a topic they can't remember how to do a question on, encourage them to watch a video on it to give them a reminder... if there're in doubt over what topic it is, just tell them to ask their teacher.

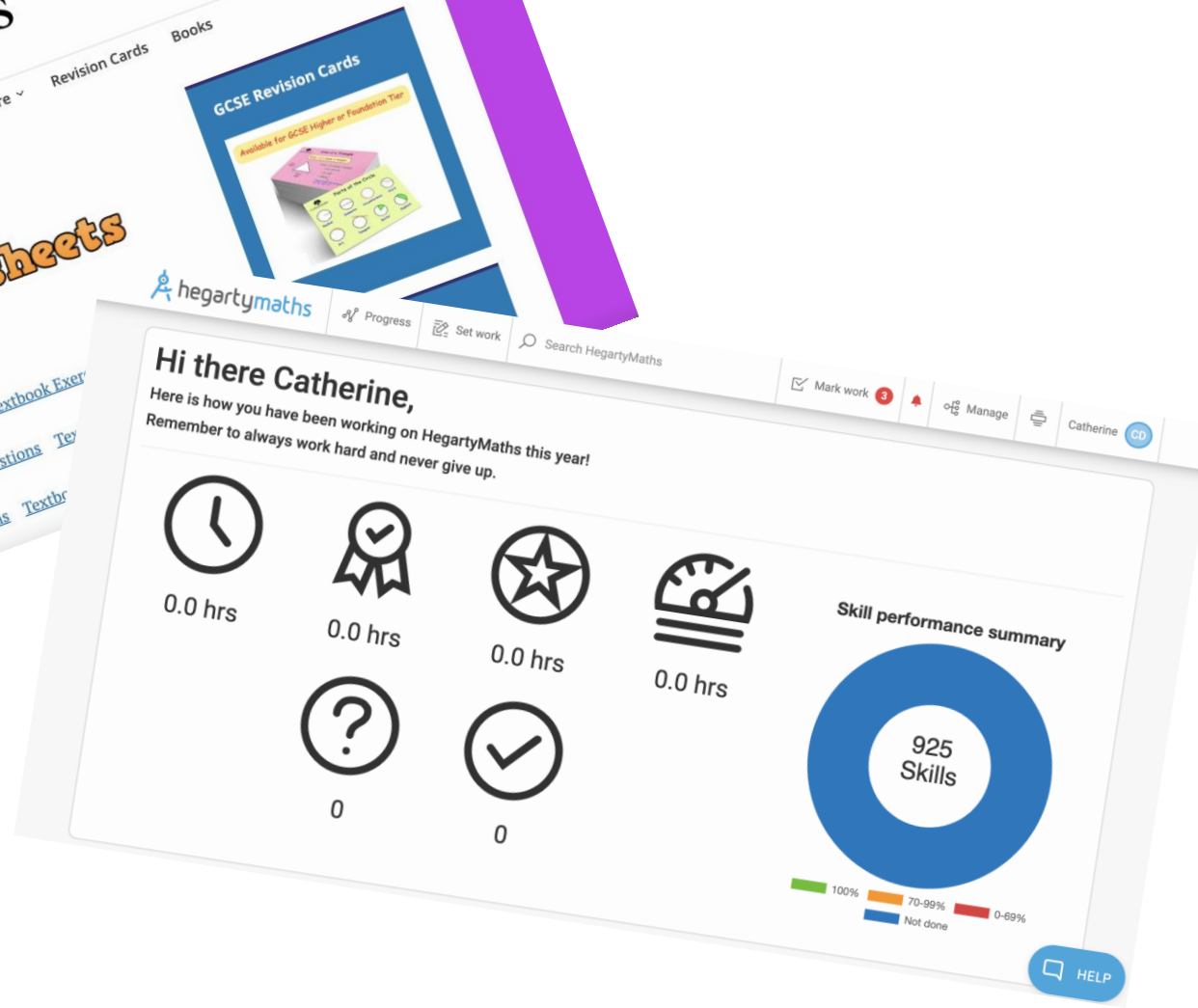
4th February		Higher Plus 5-a-day	
Write $(\sqrt{2} + \sqrt{6})^2$ in the form $a + b\sqrt{3}$			

6th February		Higher 5-a-day	
Write down the Sine Rule		Write down the Cosine Rule	
Find the area of the sector.			

6th February		Foundation Plus 5-a-day	
Zainab's pay increased by 15% to £828 a fortnight. What was her pay before the increase?			
Line 1 has gradient 4 and passes through the point (3, 10). What is its equation?			
Work out $\frac{1}{2} + \left(\frac{5}{7}\right)^2$			
The average distance of the sun from Earth is 1.5×10^8 km. Write this as an ordinary number.			
The trapezium and circle have the same area. Find r .			

2. Videos and Worksheets



3. Revision lists



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Higher Skills List

Topics	Clip Number	R	A	G
Calculating with roots and fractional indices	108, 109, 110			
Converting recurring decimals to fractions	53, 54			
Surds: Definition and estimating	111, 112			
Surds: Simplifying, multiplying and dividing	113, 114, 115			
Surds: Expanding brackets	116, 117			
Surds: Rationalising the denominator	118, 119			
Upper and lower bounds	137, 138, 139			
Error intervals	777			
Best buys	770			

Algebra

Topics	Clip Number	R
Substitution	784, 785, 786, 787	
Substitution: Equations of motion	788, 789	
Substitution: Important formulae	279	
Expanding triple brackets	166	
Expanding with algebraic fractions	172	
Expressions with algebraic fractions	187	
Linear equations with algebraic fractions	225, 226, 227, 228	
Factorising quadratic expressions: Completing the square	229	
Quadratic expressions: Factorising	235, 236, 237	
Quadratic equations: Completing the square	231, 232, 233	
Quadratic equations: Algebraic fractions	241, 242	
Quadratic equations: Completing the square	238, 239	
Quadratic equations: Algebraic fractions	244	
Quadratic equations: Completing the square	245	
Quadratic equations: Algebraic fractions	246	
Quadratic equations: Completing the square	790, 791, 792	
Quadratic equations: Algebraic fractions	796, 797	
Quadratic equations: Completing the square	211	
Simultaneous equations	256	
Simultaneous equations on graphs	302	
Quadratic graphs: Turning points and discriminant	808, 809	
Simultaneous equations on graphs	303, 304, 305	
Quadratic graphs	307, 308, 309, 310, 311	
Exponential growth problems	312, 313	
Exponential decay problems		
Trigonometric graphs		
Graph transformations		

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Number

Topics	Clip Number	R	A	G
Calculating with roots and indices	102, 103, 104, 105, 106, 107			
Repeated percentage change	91, 92			
Compound interest and depreciation	94, 95			
Error intervals	774, 775, 776			
Financial statements	758			
Best buys	768, 769, 771, 772			

Algebra

Topics	Clip Number
Substitution	782, 783, 278
Manipulating algebraic expressions	175
Changing the subject	285, 286, 287
Identities	154
Expanding double brackets	162, 163, 164, 165
Factorising quadratic expressions: x^2+bx+c	221, 223, 224
Gradient	203, 204
Equation of a straight line	208, 209, 210, 211, 212
Equation of a straight line: Parallel lines	214
Distance-time and speed-time graphs	876, 877, 878, 879
Speed-time graphs	880
Sketch graphs	898, 899, 900
Tariff graphs	89
Quadratic graphs	252, 253
Cubic graphs	297
Reciprocal graphs	31
Linear equations in one variable	18
Quadratic equations	190, 191
Simultaneous equations	
Simultaneous equations on graphs	
Representing linear inequalities	
Solving linear inequalities	
Writing algebraic expressions and equations	
Fibonacci sequences	
Geometric sequences	
Quadratic sequences	

Crossover Skills List

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Number

Topics	Clip Number	R	A	G
Ordering positive integers	13, 14			
Ordering negative integers	37			
Ordering decimals	45, 46			
Addition and subtraction of positive integers	18, 19, 20			
Addition and subtraction of negative integers	21, 22, 23, 144, 145			
Multiplication and division of positive integers	38, 39, 40, 41			
Multiplication and division of negative integers	42, 43			
Multiplication and division of decimals	47			
Place value: multiplying and dividing by 10	48, 49, 50, 51, 135, 136			
Order of operations	65, 66			
Prime numbers, prime factorisation	67, 68, 69, 70, 71, 72			
Factors, multiples, HCF and LCM	15, 16			
Powers and roots	24, 44, 120, 150			
Using standard form	28, 29, 30			
Converting with standard form	27, 31, 32, 33, 34, 35, 36			
Converting decimals to/from fractions	99, 100, 101			
Simplifying percentages to/from fractions	121, 122, 123, 124			
Mixed numbers and improper fractions	125, 126, 127, 128			
Fractions of amounts	52, 73, 74, 149			
Increasing/decreasing by fractions	75, 76, 82, 149			
Percentage problems	55, 83			
Percentage increase/decrease	59, 61			
Reverse percentages	63, 64			
Simple interest	62, 77			
Percentage problems	78, 79			
Rounding	80			
Estimating to significant figures	84, 85, 86, 87			
Working with money	88, 89, 90			
Money problems	96			
Financial statements	93			
Income and rates of pay	98			
Profit and loss	17, 56, 134			
Best buys	130			
	129, 131, 132, 133			
	747, 748, 749, 750, 751			
	752, 753, 754			
	757			
	755, 756			
	759, 760, 761, 762			
	763, 764, 765, 766, 767			

Foundation Skills List

4. Past papers (Thursday)

Write your name here

Surname Other names

Pearson Edexcel
Level 1 / Level 2
GCSE (9–1)

Centre Number

Candidate Number

Mathematics
Paper 3 (Calculator)

Higher Tier

Tuesday 13 June 2017 – Morning
Time: 1 hour 30 minutes

Paper Reference
1MA1/3H

You must have: Ruler graduated in centimetres and millimetres, protractor, pair of compasses, pen, HB pencil, eraser, calculator. Tracing paper may be used.

Total Marks

Instructions

- Use **black** ink or ball-point pen.
- **Fill in the boxes** at the top of this page with your name, centre number and candidate number.
- Answer **all** questions.
- Answer the questions in the spaces provided – *there may be more space than you need.*
- You must **show all your working**.
- Diagrams are **NOT** accurately drawn, unless otherwise indicated.
- **Calculators may be used.**
- If your calculator does not have a π button, take the value of π to be 3.142 unless the question instructs otherwise.



Information

- The total mark for this paper is 80
- The marks for **each** question are shown in brackets – *use this as a guide as to how much time to spend on each question.*

Advice

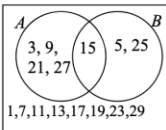
- Read each question carefully before you start to answer it.
- Keep an eye on the time.
- Try to answer every question.
- Check your answers if you have time at the end.

- The vast majority of a GCSE maths paper are fairly predictable.
- It will also help them identify what topics are their “weaknesses” and they will know which videos and practice questions they will need to work on next.
- With the “problem solving” questions, even though the ones they practise may not come up, the skills they apply to solve it when working on the past papers will really help them be prepared for the trickier question(s) in the actual GCSE.



5. Marking

Encourage them to mark their papers using mark schemes. By looking at the mark schemes will help them see what they need to write to get full marks.

Paper 1MA1: 3H				
Question	Working	Answer	Mark	Notes
1 (a)		Venn Diagram	B1 M1 M1 C1	for labels on diagram for just 15 in the intersection for just 5 and 25 in only set B or just 3, 9, 21 and 27 in only set A or just 1, 7, 11, 13, 17, 19, 23, 29 in $(A \cup B)'$ for all numbers correctly placed in the Venn Diagram Ignore all entries except the region you are marking for each method mark
(b)		$\frac{7}{15}$	P1 A1	ft for $\frac{7}{15}$ where $a \geq 7$ or $\frac{b}{15}$ where $b \leq 15$ ft $\frac{7}{15}$ oe
2		$x = -\frac{2}{3}$ $y = -2$	M1 M1 A1	for a method to eliminate one variable (condone one arithmetic error) (dep) for substituting found value in one of the equations or appropriate method after starting again (condone one arithmetic error) $x = -\frac{2}{3}$ oe and $y = -2$
3 (a)		12	B1	cao
(b)		Explanation	C1	No with statement about not being mutually exclusive events eg a person could be in both categories

6. Pinpoint learning

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Please choose a past paper





7. Timings

When they are working on past papers, encourage them to time themselves to make sure they are working at a good pace. If the exam has 80 marks and is 1 hour 30 minutes long, “a minute a mark” is a good rough guideline.

8. Revision Guides

