

Year 10 – Term 6 Additional Maths



Following the Year 10 End of Year Exams, these are my			
Strengths	Weaknesses		



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Number			
<u>√/x</u>	<u>Grade</u>	MW Clip	Title
		71 - 74	Calculating with fractions (+ - x /)
5 S	155	Error intervals	
	ng f	154	Negative indices
	ari Bra	156	Mathematical Reasoning
	< <	132	Limits of accuracy
		71	Adding and subtracting fractions
]	72	Finding a fraction of an amount
]	73	Multiplying Fractions
]	74	Dividing Fractions
]	91	Checking calculations
	1	82, 131	Index notation
]	112	Converting metric units
]	91	Estimation
		92	Using place value
		85	Fractions and percentages
		107	Fractions and ratio problems
		77	Using a calculator
	4	79 <i>,</i> 80	LCM and HCF
	ade	78	Product of primes
	80	28	Multiples and factors
	org	17, 66-7	Operations with decimals
	յցլ	75	Order of operations (BIDMAS)
	i	29	Powers
	▼	76	Reciprocals
		31-2, 90	Rounding
		83	Standard Form
		81	Squares, cubes and roots
		84	Terminating decimals and fractions
		3	Decimals
		69	Listing outcomes
		25, 26	Simplifying and Equivalent fractions
	1	17-8	Add and Subtract integers
		20	Dividing integers
		19	Multiplying integers
		68	Rules of negatives
		2, 3	Ordering numbers

Algebra			
<u>√/x</u>	Grade	MW Clip	Title
			Algebraic terminology
		161	Cubic and Reciprocal graphs
		157	Deduce quadratic roots algebraically
		137	Derive an equation and formulae/expressions
	<u>ь</u>	159	Equation of a line
	ade	134	Expand the product of two brackets
	BL:	157	Factorising quadratic expressions
	ora	163	Fibonacci, quadratic and simple geometric sequences
	ցն	160	Graphical solution to equations
	mir	138	Inequalities on number lines
	A I	139	Linear inequalities
		160	Quadratic graphs (roots, etc)
			Reciprocal real-life graphs
		162	Simultaneous equations
		131	Simplify indices
		136, 101	Changing the subject
		140	Simultaneous equations on graphs
		33, 35	Collecting like terms
		95	Substitution
		94	Factorise single bracket
		97	Gradient of a line
		96	Drawing straight line graphs
	4	133	Mid-point of a line
	ade	98	Graphs of quadratic functions
	18	135	Solving equations
	ors	93	Multiplying single brackets
	ng f		Non-standard real life graphs
	i	103	nth term of a linear sequence
	A	36	Number machines
	1	99	Sketching functions
		159	Using "y = mx + c"
	1	8	Coordinates in four quadrants
		102	Position to term rules
		104	Sequences of square, triangular and cube numbers
		7	Algebraic notation
		37	Sequences and Rules

	Geometry and Measure			
√/x	Grade	MW Clip	<u>Title</u>	
		149, 167	Arc lengths and sectors	
		121	Derive triangle results	
	le 5	181	Enlargements and negative SF	
	grad	165	Loci	
	а е.	150	Pythagoras	
	for	166	Similarity and Congruence	
	ing	145 -147	Standard constructions	
	Ain	114	Surface Area	
		168	Trigonometric ratios	
		119	Volume of prisms	
		120	Alternate and corresponding angles	
		117	Area of a circle	
			Areas of compound shapes	
		54 - 56	Areas of triangles, trapezia and parallelograms	
		124	Bearings	
		116	Circle terminology	
		118	Circumference of a circle	
		166	Congruent triangles	
		148	Enlargements and fractional SF	
	4	52	Perimeter of 2D shapes	
	ade	51, 44	Plans and elevations and nets	
	a gr	123	Polygons	
	org		Solve geometrical problems	
	յցլ	174	Vector arithmetic	
	in.	115	Volume of cuboids	
	A	43	3-D Shapes	
		12	Congruent and similar shapes	
		9	Geometrical terminology and diagrams	
		48	Measuring lines and angles	
		122	Properties of quadrilaterals and triangles	
		44	General angle rules	
		50	Translations and vectors	
		112	Using standard units	
		48, 11	Reflections and symmetry	
		49	Rotations	

Ratio, Proportion and Rates of Change			
<u>√/x</u>	Grade	MW Clip	Title
		142	Compound Units
	ы	97	Gradient & the rate of change
	ade	109	Growth and decay
	8L0	110	Reverse percentages
	ora	109	Percentage change
	g fc	142	Problems with compound units
	min	144	Scale factors and similarity
	Ai	111, 164	Simple/compound Interest and Financial Maths
	1		Solve Proportion Problems
		70, 85	Compare Fractions, Decimals and Percentages
	1	143	Distance, Time graphs
	1	105	Exchange rates
	1		Compare lengths, area, volume
		38, 39	Comparing quantities as a ratio
		106	Division of a quantity as a ratio
	4		Express one quantity as a % of another
	ade	109	Percentage change
	618	38	Problems involving ratio
	ora	42	Proportion and ratio
	lg fe	107	Ratio and fractions
	air	106	Ratio Sharing
	Ai	112	Convert standard units
		72	Express one quantity as a fraction of another
		38	Use ratio notation
	1	39	Recipe Questions
]	4	Use scale factors, diagrams and maps
	1	86, 87	Percentage of an amount
]	88 <i>,</i> 89	Change to a percentage

Statistics & Probability			
√/x	Grade	MW Clip	Title
	5 5	128	Histograms with equal class widths
	ng f(de		Comparing Distributions
	mir gra	151, 175	Probability Tree
	a a		Probability of independent events
		16	Mutually exclusive events
		126	Sample space diagrams
		61	Tables and Grids
		59	Theoretical Probability
		125	Experimental Probabilities
		127	Venn Diagrams
		57	Frequency Trees
		58	Listing Combinations
		14	Probability Scale
	4	59	Probability of equally likely outcomes
	ade		Comparing data using graphs
	a gr	129	Scatter Diagrams
	or 9	129	Correlation
	յց ք	152	Population
	mir	152	Sampling
	A	153	Time series
			Pie Charts
		61	Two-way tables
		16	Pictograms
		15	Tally charts and bar charts
		63	Types of data
		64	Vertical Line Charts
		130	Averages from a table
		65	Frequency tables and diagrams
		62	Averages and range

2	
1. 4 × 5 ²	2. Function Machines $6 \times -4 -15 = $ $x - 4 -15 = -69$
3. For every 7 boys on a softball team there are 2 girls. What is the ratio of boys to girls?	4. The perimeter of a rectangle is 244 inches. The width is 36 inches. What is the length of the rectangle?
5. What is the probability of choosing a green marble from a jar containing 4 red, 9 green and 3 blue marbles?	 6. Mr Smith kept a record of the number of absences for each student in his class for one term. Here are his results. 0 0 0 8 4 5 5 3 2 1 5 3 5 2 Write down the mode.
7. Express 175 as a product of it's prime factors.	8. Write the next three terms of the following sequence 16, 8, 4,,,
9. If I need 65g of flour to make 20 breadsticks, how much flour would I need to make 140 breadsticks?	10. What is the size of angle a 45° 86° α
11. The highest mark in the Science test was 88. Three students scored 46 which was 6 marks higher than the lowest score. What was the range of the scores?	12. If the probability picking a green marble from a bag of green and red marbles is 0.4. If I choose a marble 100 times and replace it each time, how many times would I expect to pick a green marble?
13. Order the following from smallest to largest. 0.76, 0.706, 0.7, 0.60, 0.067	14. Find the value of the following expression if $\mathbf{a} = 7$, $\mathbf{b} = 6$ and $\mathbf{c} = 12$. $\mathbf{a} + \mathbf{b} + \mathbf{c}$
15. What is the difference between the perimeter and area of the following square? 9m	16. You have a pair of dice. Find the probability of rolling a prime number on both dice.
17. Katie earns £45 per week for her part-time job. She is to be given a 10% pay rise.How much will she earn per week after the pay rise?	 18. Solve the following equation: -32 = x + 9
19. What is 12.5 L in ml?	20. Based on the pictogram below, how many cupcakes were eaten on Thursday? Monday Tuesday Wednesday Wednesday Friday Saturday
Total: /20	Personal Target:

1. $4 + 6 \times 7 - 11$	2. Function Machines 5×7 -50 = X7 -50 = 6
3. The ratio of male to female birds in a bird cage was 5:2. For every 63 males there are females.	4. If a square has sides of 2cm each, what is the area of the square in millimetres?
5. What is the probability of getting a 9 after rolling a single die numbered 1 to 6?	6. Mr Smith kept a record of the number of absences for each student in his class for one term. Here are his results. 0 0 0 8 4 5 5 3 2 1 5 6 7 2 4 Work out the mean.
7. Express 112 as a product of it's prime factors.	8. What is the nth term rule of the following sequence 15, 10, 5, 0, -5, -10
9. If I need 105ml of milk to make 15 pancakes, how much milk do I need to make 30 pancakes?	10. Calculate the size of angle β
11. Seven people took part in a sponsored swim. The number of lengths they completed were 16, 11, 8, 8, and 14, 16, 13. What is the median number of lengths completed?	12. A fair die is rolled 180 times, how many times would I expect it to either land on an odd number.
13. Order the following from smallest to largest: $\frac{2}{3}, \frac{3}{5}, \frac{13}{15}, \frac{2}{5}$	14. Find the value of the following expression if $\mathbf{a} = 6$, $\mathbf{b} = 12$ and $\mathbf{c} = 9$. $\mathbf{c} - \mathbf{b} + \mathbf{a}$
15. What is the perimeter of the	16. You have a deck of cards. Find the probability of drawing a red card on the first draw, replacing it and drawing a number less than 5 on the second draw.
17. Increase £270 by 35%	18. Solve the following equation: 5x + 8 = 53
19. What is 19,580g in kg?	20. The pie chart shows the what costs are involved building a house. What fraction of the total is cement?
Total: /20	Densen of Tensets

1. $12 \div 3 + 6 \times 3^2$	2. Function Machines $7 \times 2 + 13 =$ X 2 + 13 = 41
3. At the malt shop the ratio of hotdogs sold to hamburgers sold was 9:5. For every hamburgers sold there were 65 hotdogs sold.	4. What is the area of the rectangle?
5. What is the probability of choosing the letter b from the word probability?	 6. Peter rolled a 6-sided dice ten times. Here are his scores. 3 2 4 6 3 3 4 2 5 4 2 6 3 4 Work out the median of his scores.
7. What is the highest common factor of 30 and 450?	 8. What are the missing terms in this sequence? 2,, 16, 23,, 37,
9. If I need 7kg of cement to make 32kg concrete, how much cement do I need to make 96kg of concrete?	10. Calculate the size of angle b.
11. What is the difference between the mean and the median of the following set of numbers; 10, 32, 10, 11, 7, 17, 18, 21	12. Cards are randomly selected from a pack of cards and each then replaced before the next choice. Out of 65 choices how many times would I expect to pick a piture card?
13. Order the following from smallest to largest: $\frac{3}{7}, \frac{1}{2}, 0.49, 0.2$	14. Find the value of the following expression if $\mathbf{a} = 8$, $\mathbf{b} = 4$ and $\mathbf{c} = 9$. 4a + bc
15. What is the difference between the area and perimeter of the following square?	16. You have a deck of cards. Find the probability of drawing an ace on the first draw, replacing it and drawing a Spade card on the second draw
 17. The prices of all the televisions in a shop are to be increased by 12%. Calculate the new price of a television that originally cost £150 	18. Solve the following equation: 22 = -2x
19. What is 56cm in mm?	20. If 12 red boxes were sold on Tuesday, add a key to the pictogram to make it correct. Days Number of Red-Boxes Sold Monday Image: Constraint of the pictor of
Total: /20	Personal Target: