BUSTENS School Knowledge Organiser Maths

> Year 11 Term 2 Additional Maths



## Additional Online Homework:

Platform	Due:

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	erties of Solids. 43	44	is on a Line and at a Point 45	uring and Drawing Angles 46	ing a Triangle Using a Protractor . 47	ctions	ions	lations	and Elevations	leters	of a Rectangle 53	of a Triangle	of a Paralelogram	of a Trapezium	ency Trees. 57	a Outcomes 58	lating Probabilities	ally Exclusive Events60	Vay Tables61	iges and the Range62	- Discrete and Continuous 63	al Line Charts	iency Tables and Diagrams 65		A A A	of a triangle = $\frac{4\pi}{2}$	д	of transmission = $\frac{1}{2}(a + b)h$	$u = \frac{1}{2} \sqrt{\frac{1}{2} \sqrt{\frac{1}{2}}}$	æ
Grade 2	Adding Integers and Decimals 17   Prop	Subtracting Integers and Decimals 18 Nets	Multiplying Integers. 19 Angle	Dividing Integers 20 Meas	Inverse Operations	Money Questions	Negatives in Real Life	Introduction to Fractions	Equivalent Fractions	Simplifying Fractions	Half-Way Values	Factors, Multiples and Primes	Introduction to Powers/Indices	Multiply and Divide by Powers of 10 30 Area	Rounding to the Nearest 10, 100 etc 31 Frequ	Rounding to Decimal Places	Simplifying - Addition and Subtraction 33 Calor	Simplifying - Multiplication	Simplifying - Division	Function Machines	Generating a Sequence - Term to Term . 37 Data	Introduction to Ratio	Using Ratio for Recipe Questions 39 Freq	Introduction to Percentages	Value for Money 41	Introduction to Proportion	Prime Numbers	2, 3, 5, 7, 11, 13, 17, 19, 23, 29,	Each prime number has	exactly two factors.
Grade 1	Place Value	Ordering Integers	Orderino Decimals	Reading Scales.	Simple Mathematical Notation	Interpreting Real-Life Tables6	Introduction to Alpebraic Conventions 7	Coordinates 8	Simila Caomatrio Dafinitione		Curringtriae	Teccellations and Construct Shape 10	Teasenaturia and congruen onapea 12 Namon of Analon	Natifica of Arigica	The Probability Scale	Ially Charts and Bar Charts 15	Pictograms 16	Addition/Subtraction		(++) neronnes + 🖌 eg.	(-) becomes + $(-3) = 5 + 3$	)(		(+) becomes - * 5 + (-3) = 5 - 3		Multiplication/Division	(+) x (+) becomes + eg.	$(-) \times (-)$ becomes $+ (-) + (-) - (-)$	(T) × (T) becomes > eg.	(-) (-)

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Ciade t	99Index Notation131100Introduction to Bounds132101Midpoint of a Line on a Graph133102Expanding and Simplifying Brackets134103Expanding and Simplifying Brackets135104Forming Formulae and Equations136105Forming Formulae and Equations136106Formulae and Equations137107Solving Linear Inequalities on a Number Line138108Formulae and Equations138109Formulae and Equations138109Fibonacci Sequences141110Compound Units142111Distance-Time Graphs145112Distance-Time Graphs145113Constructions Using Compasses146114Loci148115Distance-Time Graphs146116Drawing a Triangle Using Compasses147117Distance-Time Graphs146118Constructions Using Compasses147119Simple Tree Diagrams156118Pythagoras' Theorem156119Simple Tree Diagrams151120Simple Tree Diagrams151121Time Series156122 $\chi^a \times \chi^b = \chi^{a,b}$ $a^2 + b^2 = c^2$ 123 $\chi^a + \chi^b = \chi^{a,b}$ $a^2 + b^2 = c^2$ 124 $\chi^a + \chi^b = \chi^{a,b}$ $a^2 + b^2 = c^2$ 125 $\chi^a + \chi^b = \chi^a$ $a^2 + b^2 = c^2$ 126 $\chi^a + \chi^b = \chi^a$
	Sketching Functions. Solving Equations Using Flowcharts Subject of a Formula Using Flowcharts Generate a Sequence from <i>n</i> th Term Finding the <i>n</i> th Term. Exchanging Money Special Sequences. Exchanging Money Special Sequences. Exchanging Money Special Sequences. Exchanging Money Special Sequences. Exchanging Money Ratios, Fractions and Graphs. Increase/Decrease by a Percentage Percentage Change Percentage Change Percentage Change Reverse Percentage Problems. Reverse Percentage Problems. Simple Interest Metric Conversions. Percentage Change Percentage Change Percentage Change Percentage Change Reverse Percentage Problems. Reverse Percentage Problems. Surface Area of a Prism Volume of a Cubold. Circle Definitions. Area of a Circle Volume of a Circle Properties of Special Triangles. Angles in a Triangle Properties of Special Triangles. Angles in a Triangle Properties of Special Triangles. Properties of Sp
ND ND	Multiplying Decimals

Grada A

	I	Iomework	1 - Calculat	or			5	(a) Simplify $t \times t$	
1	Write down a multiple of 6 that is l	between 40 a	and 50.						
				(T) ( ) 0				$(h)$ Simplify $2 f \times 5 c$	(1)
				(Total fo	r Question 2	is I mark)		(b) Simplify $5f \times 5g$	
2	Work out the cube root of 64								
									(1)
				(Total fo	r Question 3	is 1 mark)			(Total for Question 6 is 2 marks)
							6	Emily drives 186 miles in 3 hours.	
3	Work out the value of $3^5$ .							(a) What is her average speed?	
									mph
									(2)
				(Total fo	r Question 4	is 1 mark)		Sarah drives at an average speed of 58 mph for 4 hours.	
								(b) How many miles does Sarah drive?	
4	60 students were asked how they g	et to school.							
	The table snows the results.		1	1	-				miles
		Bus	Walk	Car	Bicycle				(2)
	Number of students	15	27	12	6				(Total for Question 9 is 4 marks)
	What fraction of the 60 students di	d <b>not</b> walk t	to school?						
							7	Write $\frac{7}{100}$ as a decimal.	
				 (Total for	Question 5	s 2 marks)			

(Total for Question 11 is 1 mark)

12 Each worker in a factory is either left-handed or right-handed.

22 of the 45 workers are male.16 of the 34 right-handed workers are female.

Complete the frequency tree for this information.



(Total for Question 22 is 1 mark)

8 Solve  $\frac{y}{4} = 3$ 

## Homework 2 – Calculator

1. Write down a 6 digit number that has 4 as its thousands digit. You can only use the digit 4 once.

		(Total for Question 16 is 1 mark)	I
2	Write $\frac{4}{50}$ as a percentage.		
	50		
		%	
		(Total for Question 26 is 1 mark)	
3	$(7^2)^{y} = 7^{10}$		
	Find the value of <i>y</i> .		(a) Write down the mathema
		<i>y</i> =	
		(Total for Question 27 is 1 mark)	
			(b) Find the area of share <b>D</b>
4	Annie and Lily share some money in the ratio	4:3	(v) Find the area of shape <b>r</b> .
	What fraction of the money does Lily get?		

(Total for Question 31 is 1 mark)

## 5 The diagram shows two shapes drawn on a centimetre grid.



atical name of quadrilateral Q.

(2) (Total for Question 37 is 3 marks)

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(1)

9 Write down all the prime numbers between 20 and 30.



(b) Write down the probability that this person is female.

(Total for Question 15 is 3 marks)

(2) (Total for Question 23 is 5 marks)

1.	Homework 3 – Calcula Write the number 2538 correct to the nearest hundred.	tor	6.	The incomplete p on Tuesday, on V	ictogram shows information abou Vednesday and on Thursday.	ut the number of cycles sold in a shop
				Tuesday	$\bigotimes$	
		(Total for Question 11 is 1 mark)		Wednesday	$\Theta \otimes \Theta$	
2.	Simplify $y + 3y - 2y$			Thursday	0	Key:
				Friday		
		(Total for Question 10 is 1 mark)		Saturday		
3.	The film starts at 6.45 p.m. The film lasts 102 minutes.					
	What time does the film finish?			A total of 20 cyc	les were sold on Tuesday, Wedne	sday and Thursday.
				8 cycles were sol	d on Friday. old on Saturday	
				Use this informat	tion to complete the pictogram.	
						(Total for Question 18 is 3 marks)
			7.	Thais has a large There are 2 litres	bottle of shampoo. of shampoo in the large bottle.	
		(Total for Question 13 is 2 marks)		Thais also has so	me empty small bottles.	0 m/ of shampoo
4.	Write 0.3 as a percentage.			How many small	bottles can be completely filled v	with shampoo from the large bottle?
		%		,	1 5	
		(Total for Question 16 is 1 mark)				
	5. Rehan is asked to find the range of the numbers $3   1   8   7$	5				
	Here is his working.	-				
	Range = 5 - 3 = 2					
	This is wrong.					
	Explain why.					(Total for Question 19 is 3 marks)
		(Total for Question 21 is 1 mark)				

 Last year the cost of a season ticket for a football club was £560. This year the cost of a season ticket for the club has been increased to £600.

Write down the increase in the cost of a season ticket as a fraction of last year's cost.

		(1 otal for Question 24 is 2 marks)	
9.	2.5 kg of apples cost £3.60.		
	Work out the cost of 3.5 kg of apples.		
			(Total for Question 34 is 2 marks)
			13.
			$\bigwedge^A$
		£	
		(Total for Question 28 is 2 marks)	
			<u></u>
10.	Factorise $4m + 12$		B C D
			BCD is a straight line. ABC is a triangle.
			Show that triangle <i>ABC</i> is an isosceles triangle.
		(Total for Question 29 is 1 mark)	Give a reason for each stage of your working.
		<u>`</u>	
11.	Expand and simplify $5(p+3)$		

(Total for Question 36 is 4 marks)

(Total for Question 39 is 2 marks)

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