

Year 11 - Term 5

Additional Maths



Additional Online Homework:

Platform	Due:

Log-in details:



Maths Watch - Revision lessons just a click away

Grade 1	Grade 2					
Grade 1Place Value.1Ordering Integers2Ordering Decimals3Reading Scales.4Simple Mathematical Notation5Interpreting Real-Life Tables.6Introduction to Algebraic Conventions7Coordinates8Simple Geometric Definitions9Polygons.10Symmetries11Tessellations and Congruent Shapes12Names of Angles.13The Probability Scale14Tally Charls and Bar Charls15Pictograms16Addition/Subtraction16 \bullet becomes + $5-(-3)=5+3$ \bullet becomes -eg. \bullet becomes -eg. \bullet becomes -eg. \bullet becomes - $5+(-3)=5-3$	GraceAdding Integers and Decimals17Subtracting Integers and Decimals18Multiplying Integers19Dividing Integers20Inverse Operations21Money Questions22Negatives in Real Life23Introduction to Fractions24Equivalent Fractions25Simplifying Fractions26Half-Way Values27Factors, Multiples and Primes28Introduction to Powers/Indices29Multiply and Divide by Powers of 1030Rounding to the Nearest 10, 100 etc31Rounding to Decimal Places32Simplifying - Addition and Subtraction33Simplifying - Division35Function Machines36Generating a Sequence - Term to Term37Introduction to Percentages40	de 2 Properties of Solids. 43 Nets 44 Angles on a Line and at a Point 45 Measuring and Drawing Angles 46 Drawing a Triangle Using a Protractor 47 Reflections 48 Rotations 49 Translations 50 Plans and Elevations 51 Perimeters 52 Area of a Rectangle 53 Area of a Triangle 54 Area of a Triangle 55 Area of a Triangle 56 Frequency Trees 57 Listing Outcomes 58 Calculating Probabilities 59 Mutually Exclusive Events 60 Two-Way Tables 61 Averages and the Range 62 Data - Discrete and Continuous 63 Vertical Line Charts 64 Frequency Tables and Diagrams 65				
$\begin{array}{c} \begin{array}{c} \begin{array}{c} + \end{array} \\ \end{array} \\ \begin{array}{c} \end{array} \\ \end{array} \\ \end{array} \\ \begin{array}{c} \end{array} \\ \end{array} \\ \end{array} \\ \begin{array}{c} \end{array} \\ \end{array} \\ \begin{array}{c} \end{array} \\ \end{array} \\ \end{array} \\ \end{array} \\ \begin{array}{c} \end{array} \\ \end{array} \\ \end{array} \\ \end{array} \\ \begin{array}{c} \end{array} \\ \end{array} \\ \end{array} \\ \end{array} \\ \begin{array}{c} \end{array} \\ \begin{array}{c} \end{array} \\ \end{array} $	Using Ratio for Recipe Questions	Frequency Tables and Diagrams				

Maths Watch - Revision lessons just a click away

Grade 3

Multiplying Decimals	Sketching Functions
Dividing Decimals	Solving Equations Using Flowcharts 100
Four Rules of Negatives	Subject of a Formula Using Flowcharts 101
Listing Strategies	Generate a Sequence from nth Term 102
Comparing Fractions	Finding the nth Term 103
Adding and Subtracting Fractions 71	Special Sequences
Ending a Fraction of an Amount	Exchanging Money
Multiplying Fractions	Sharing Using Ratio
Dividing Fractions	Ratios, Fractions and Graphs
BODMAS/BIDMAS	Increase/Decrease by a Percentage 108
Reciprocals	Percentage Change
Calculator Questions ,	Reverse Percentage Problems 110
Product of Primes	Simple Interest
Highest Common Factor (HCF) 79	Metric Conversions 112
Lowest Common Multiple (LCM) 80	Problems on Coordinate Axes
Squares, Cubes and Roots,	Surface Area of a Prism
Working with Indices	Volume of a Cuboid. 115
Standard Form	Circle Definitions
Decimals and Fractions	Area of a Circle
Fractions, Percentages, Decimals 85	Circumference of a Circle
Percentage of an Amount (Calc.) 86	Volume of a Prism
Percentage of an Amount (Non-Calc.) 87	Angles and Parallel Lines
Change to a Percentage (Calc.) 88	Angles in a Triangle
Change to a Percentage (Non-Calc)89	Properties of Special Triangles,
Rounding to Significant Figures 90	Angle Sum of Polygons
Estimating Answers	Bearings
Using Place Value	Experimental Probabilities 125
Expanding Brackets	Possibility Spaces 126
Simple Factorisation	Verin Diagrams 127
Substitution	Representing Data 129
Straight Line Graphs	Scatter Diagrams 129
The Gradient of a Line	Averages From a Table. 130
Drawing Quadratic Graphs	The second s

Grade	e 4					
Index Notation						
Introduction to Bounds						
Midpoint of a Line on a Graph						
Expanding and Simplifying Brackets						
Solving Equations	135					
Rearranging Simple Fo	rmulae 136					
Forming Formulae and	Equations 137					
Inequalities on a Numb	er Line 138					
Solving Linear Inequalit	les 139					
Simultaneous Equation	s Graphically 140					
Fibonacci Sequences.						
Distance Time Crophe						
Similar Shaper	140					
Canada Shapes						
Constructions Using Co	mpasses 140					
Drawing a Triangle Light	Compasses 147					
Enlargements	148 Idea 148					
Tangents, Arcs, Sectors	and Segments 149					
Pythagoras' Theorem .						
Simple Tree Disorams						
Sampling Populations.						
Time Series						
The Laws of Indices	Pythagoras					
A b Atb						
$\chi \times \chi = \chi$	a + D = c					
$\chi^{n} \div \chi^{b} = \chi^{n-b}$	N					
$(\sqrt{a})^b = \sqrt{ab}$	b					
(n) = n						
$\chi^{-i} = \frac{1}{\chi^{i}}$						
2010 - 20						



3 Solve 7x - 27 < 8

(Total for Question 2 is 2 marks)

Homework 1 - Non-calculator

Write 124 as a product of its prime factors.

1

(Total for Question 4 is 4 marks)

5 (a) Work out
$$1\frac{3}{5} + 2\frac{1}{4}$$

Give your answer as a mixed number.

7 There are 15 sweets in a jar. 4 of the sweets are red.

Jill takes at random a sweet from the jar.

(a) Write down the probability that the sweet is red.

(b) Show that $2\frac{2}{3} \div 6 = \frac{4}{9}$

(Total for Question 5 is 4 marks)

6 y = 6x - 5

Work out the value of *y* when x = -4

y =

(Total for Question 6 is 2 marks)

There are only green counters and blue counters in a bag.

A counter is taken at random from the bag. The probability that the counter is green is 0.3

(b) Find the probability that the counter is blue.

(1) (Total for Question 7 is 2 marks)

.....

.....

(a) Simplify $(p^2)^5$ 8

(1)

(1)

(b) Simplify $12x^7y^3 \div 6x^3y$

(2) (Total for Question 8 is 3 marks)

(2)

(2)

9 Here is a quadrilateral *ABCD*.



All the measurements are in centimetres.

The perimeter of ABCD is 52 centimetres.

Work out the length of *DC*.

11 Write down the factors of 60.

(Total for Question 11 is 1 mark)

12 In Norway last year, the lowest temperature was -15°C. In Norway last year, the highest temperature was 42°C greater than the lowest temperature.

Work out the highest temperature in Norway last year.

.....° C

(Total for Question 12 is 2 marks)

13 Here are the ages, in years, of 15 people.

19	28	29	33	27
27	37	25	27	37
17	45	47	25	26

Show this information in a stem and leaf diagram.



(Total for Question 9 is 4 marks)

..... centimetres

10 Increase 240 by 15%

(Total for Question 13 is 3 marks)

(Total for Question 10 is 3 marks)

14 Change 40 centimetres into millimetres.

16

		Colour	blue	green	red	yellow	
	millimetres	Number of counters	30				
15 (<i>a</i>)Work out an estimate for the value of 92 × 1.63 You must show all your working.	(Total for Question 14 is 1 mark)	There is a total of 100 cour Ashin takes at random a co (<i>a</i>) Find the probability th	nters in the ba ounter from th at the counter	g. e bag. · is not blue.			
Given that	(2)	The ratio of the number of (<i>b</i>) Work out the number	blue counters	to the numbe	er of green cou	unters is 2 : 3	(2)
(b) find the value of 29.6×32							(2)
	(1) (Total for Question 15 is 3 marks)	Bradley says, "The number of red counter	ers in the bag	is the same as	the number o	of yellow counte	ers in the bag."
Simplify $3 \times w \times 5 \times t$		(c) Can Bradley be correct Give a reason for your	rt? answer.				
	(Total for Question 16 is 1 mark)						
							(1)

(Total for Question 17 is 5 marks)

17 There are only blue counters, green counters, red counters and yellow counters in a bag.

The table shows the number of blue counters in the bag.

1 Write the following numbers in order of size. Start with the smallest number. -11 -7 10 -2 8 3 (Total for Question 1 is 1 mark) Write 37% as a fraction. 2 (Total for Question 2 is 1 mark) 3 Write 0.4 as a percentage.% (Total for Question 3 is 1 mark) 4 Safiya wants to hire a van. She uses this rule to work out the cost of hiring a van for a number of days. $Cost = \pounds 45 \times number of days$ Safiya is going to hire the van for 7 days.

Homework 2

6 Sophie works in a bed shop.

During the last three months she sold 198 beds.

59 beds were sold without a mattress.45 beds were double beds.17 of the single beds were sold without a mattress.67 of the 83 king size beds were sold with a mattress.

Use this information to complete the two-way table.

	Single	Double	King size	Total
With mattress				
Without mattress				
Total				

_					(Total for Ques	tion 6 is 3 marks)
7	(<i>a</i>) Work out $\frac{5}{8}$ of 132					
	(b) Write the following Start with the small	fractions in est fraction.	order of siz	ze.		(2)
		$\frac{3}{8}$	$\frac{9}{32}$	$\frac{1}{4}$	$\frac{21}{64}$	
						(2)
					(Total for Ques	tion 7 is 4 marks)

.....

£.....(Total for Question 4 is 2 marks)

5 Write 1476 to the nearest 10

Work out the cost.

(Total for Question 5 is 1 mark)

8 The box below contains three mathematical symbols.



From the box, choose a symbol to make each of the following statements correct.



(Total for Question 8 is 2 marks)

10 Here is part of a bus timetable between Wigan and Bolton.

Wigan	07 20		07 40		07 55
Blackrod	07 49		08 09		08 24
Horwich	08 00	08 14	08 20	08 29	08 36
Lostock	08 09	08 20	08 29	08 37	08 44
Park Road	08 14	08 34	08 41	08 48	08 58
Bolton	08 32	08 51	08 58	09 05	09 15

(a) How many minutes should the 07 20 bus take to go from Wigan to Lostock?

..... minutes (2)

Alison goes from Blackrod to Bolton by bus. One day Alison leaves her house at 08 00

She takes 7 minutes to walk to the bus stop in Blackrod. She takes 15 minutes to walk from the bus stop in Bolton to work.

Alison needs to be at work for 09 20

(b) Will Alison get to work for 09 20? You must show how you get your answer.

(3)

(Total for Question 10 is 5 marks)

11 (*a*) Simplify 4c + 7d + 3c - d

13 The diagram shows a triangle *ABC*.



(Total for Question 13 is 3 marks)

...°

14	Here	is po	olvgon	ABCDEF	on a	square	grid.



(2) (Total for Question 15 is 2 marks) **16** (*a*) Expand and simplify 4(x+3) + 7(4-2x)

(b) Factorise fully $15x^3 + 3x^2y$

17 Ella invests £7000 for 2 years in an account paying compound interest. The interest rate is 3%.

(a) How much money is in the account after 3 years?

(2)

(2)

(2)

(b) How many years will it take until there is more than £9,000 in the account?

(2)

(Total for Question 17 is 4 marks)

.....

.....

.....

(Total for Question 16 is 4 marks)

1	Homew Write 35% as a fraction.	work 3			5	5 Write the following numbers in order of size. Start with the smallest number.				
							0.41	0.5	0.46	0.408
2	Write down two factors of 12	(Total fo	or Question	1 is 1 mark)						
									()	Total for Question 5 is 1 mark)
					6	208 bars of cho	ocolate were sold	from a shop.		
		(Total f	or Question	2 is 1 mark)		$\frac{1}{4}$ of these bars	s of chocolate we	re large bars.		
						The rest of the	bars of chocolate	were small ba	rs.	
3	Write $\frac{4}{5}$ as a decimal.					All the large ba All the small ba	ars of chocolate v ars of chocolate v	vere sold for £1 vere sold for 60	each.)p each.	
		(Total fo	or Question	3 is 1 mark)		Work out the to Give your answ	otal amount of m ver in pounds.	oney for which	the 208 bars of	f chocolate were sold.
4	Four students play a game. The table shows the number of points each stud	lent has.								
	Student Ali	Barbara Calliope	Danesh							
	Number of points 143	121 45	19							
	Barbara has more points than Danesh. (<i>a</i>) How many more?									
	(<i>b</i>) Work out the mean number of points.			(1)						
				(2)					£	
		(Total fo	r Question	4 is 3 marks)					(T	otal for Question 6 is 3 marks)

7 Write 60 metres as a fraction of 1km. Give your answer in its simplest form.



10

v

12 You can use this graph to change between ounces and grams.



13 (a) Expand 3(4-2x)



14 Work out the lowest common multiple (LCM) of 24 and 56

(Total for Question 14 is 2 marks)

