

GCSE Maths

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Director of Maths

DURRINGTON HIGH SCHOOL



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GCSE Maths 2019

- AQA Maths 8300
- No controlled assessment
- Consists of three papers of equal weighting (80 marks each)
- Higher and Foundation tiers of entry
- Paper 1 is non calculator (1.5 hours)
- Paper 2 & 3 are both calculator (both 1.5 hours)
- Graded 9 – 1
- 7 lessons per fortnight



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Assessments

- Assessment dates
 - WB 11th November (1 paper – Calculator allowed)
 - WB 24th February (1 paper – Calculator allowed)
 - WB 15th June (3 papers – 1 non calculator and 2 calculator allowed)
 - Year 10 “mocks”
 - Same format as a real GCSE
- Three assessments in year 11 (October, December mocks and February) prior to the GCSEs.



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VLE (Resources)



Resources

Maths



Grade 1-3

12 September 2016 16:44



Grade 4-5

12 September 2016 16:45



Grade 6-9

12 September 2016 16:45



Past Papers

6 December 2016 10:10



Useful revision websites

18 November 2016 16:53



Year 7

1 November 2017 07:38



Year 8

16 October 2017 14:25



Year 9

25 September 2017 15:45



Year 10

25 September 2018 17:32



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VLE (Resources)

Home Resources Maths

Folder Name	Last Modified
Grade 1-3	12 September 2016 16:44
Grade 4-5	12 September 2016 16:45
Grade 6-9	12 September 2016 16:45
Past Papers	6 December 2016 10:10
Useful revision websites	18 November 2016 16:53
Year 7	1 November 2017 07:38
Year 8	16 October 2017 14:25
Year 9	25 September 2017 15:45
Year 10	25 September 2018 17:32

Knowledge Organisers and Revision Lists



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VLE (Resources)

Home Resources Maths

Grade 1-3
12 September 2016 16:44

Grade 4-5
12 September 2016 16:45

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Past Papers
6 December 2016 10:10

Useful revision websites
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Year 7
1 November 2017 07:38

Year 8
16 October 2017 14:25

Year 9
25 September 2017 15:45

Year 10
25 September 2018 17:32

Graded Revision Material



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Year 10	25 September 2018 17:32

Past Papers and Revision Websites



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Year 10 Folder - Knowledge Organisers

- Explains keywords, key facts that students need to learn and key concepts to help with homework.
- Attached to each homework on Connect for students to access.
- In the year 10 folder on the VLE

Year 10 Expressions Higher		Key Concepts															
Key Words																	
Variable	A symbol for a number we don't know yet (usually a letter).	Simplifying Multiplying and Dividing: $a \times b = ab$ - you can multiply algebra that are in different families $a^3 \times a^2 = a^5$ - when we multiply with powers, we add them $\frac{1}{2} \div a = \frac{1}{2a}$ - we do not use the division (\div) symbol in algebra, we write divisions as fractions $a^3 \div a^2 = a^1 = a$ - when we divide with powers, we subtract them $\frac{10a^5}{5a^3} = 2a^2$ - when there are co-efficients we treat them 'normally', we multiply or divide as we would if the algebra was not there $x^2(x+3) = x^3 + 3x^2$ - when expanding brackets with indices we use the same rules as when we multiply indices.															
Term	a 'part' of an expression separated by an add or subtract. EG $2a + 4b$ - has two terms	Substitution We put numbers where the letters <table border="1"> <tr> <td>Find A when $b = 5$ & $h = 6$</td> <td>Use the formula $F = 1.8c + 32$ when $C = 17$</td> <td>Find b when $A = -32$</td> </tr> <tr> <td>$A = b^2 + h$</td> <td></td> <td>$A = b - 27$</td> </tr> <tr> <td>$A = 5^2 + 6$</td> <td>$F = 1.8 \times 17 + 32$</td> <td>$-32 = b - 27$</td> </tr> <tr> <td>$A = 25 + 6$</td> <td>$F = 30.6 + 32$</td> <td>$+ 27 = + 27$</td> </tr> <tr> <td>$A = 31$</td> <td>$F = 2.4$</td> <td>$- 5 = b$</td> </tr> </table>	Find A when $b = 5$ & $h = 6$	Use the formula $F = 1.8c + 32$ when $C = 17$	Find b when $A = -32$	$A = b^2 + h$		$A = b - 27$	$A = 5^2 + 6$	$F = 1.8 \times 17 + 32$	$-32 = b - 27$	$A = 25 + 6$	$F = 30.6 + 32$	$+ 27 = + 27$	$A = 31$	$F = 2.4$	$- 5 = b$
Find A when $b = 5$ & $h = 6$	Use the formula $F = 1.8c + 32$ when $C = 17$	Find b when $A = -32$															
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$A = 5^2 + 6$	$F = 1.8 \times 17 + 32$	$-32 = b - 27$															
$A = 25 + 6$	$F = 30.6 + 32$	$+ 27 = + 27$															
$A = 31$	$F = 2.4$	$- 5 = b$															
Like terms	Terms that contain identical variables.	Rearrange (Change the subject) When we rearrange, we use the same method as when we solve equations by balancing both sides and doing the 'inverse' Rearrange to make y the subject: <table border="1"> <tr> <td>$a + y = h$</td> <td>$x + 6 = 3y$</td> </tr> <tr> <td>$a + y = h$</td> <td>$- 6 = - 6$</td> </tr> <tr> <td>$+ y = h - a$</td> <td>$x = 3y - 6$</td> </tr> <tr> <td>$y = h - a$</td> <td>$- 3 = - 3$</td> </tr> <tr> <td>$\frac{y}{3} = \frac{h - a}{3}$</td> <td>$x = 3y - 6$</td> </tr> </table>	$a + y = h$	$x + 6 = 3y$	$a + y = h$	$- 6 = - 6$	$+ y = h - a$	$x = 3y - 6$	$y = h - a$	$- 3 = - 3$	$\frac{y}{3} = \frac{h - a}{3}$	$x = 3y - 6$					
$a + y = h$	$x + 6 = 3y$																
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$+ y = h - a$	$x = 3y - 6$																
$y = h - a$	$- 3 = - 3$																
$\frac{y}{3} = \frac{h - a}{3}$	$x = 3y - 6$																
Expression	Terms grouped together with additions and subtractions to show the value of something.	Expanding Single Two single FOIL Grid <table border="1"> <tr> <td>$2(p + 3)$</td> <td>$3(x + 2) - 5(2x + 1)$</td> <td>$(x + 5)(x - 7)$</td> <td>$(p + 3)(p - 7)$</td> </tr> <tr> <td>$2p + 6$</td> <td>$3x + 6 - 10x - 5$</td> <td>$x^2 - 7x + 3p - 21$</td> <td>$p^2 - 7p + 3p - 21$</td> </tr> <tr> <td></td> <td>$- 7x - 1$</td> <td>$p^2 - 4p - 21$</td> <td>$p^2 - 4p - 21$</td> </tr> </table>	$2(p + 3)$	$3(x + 2) - 5(2x + 1)$	$(x + 5)(x - 7)$	$(p + 3)(p - 7)$	$2p + 6$	$3x + 6 - 10x - 5$	$x^2 - 7x + 3p - 21$	$p^2 - 7p + 3p - 21$		$- 7x - 1$	$p^2 - 4p - 21$	$p^2 - 4p - 21$			
$2(p + 3)$	$3(x + 2) - 5(2x + 1)$	$(x + 5)(x - 7)$	$(p + 3)(p - 7)$														
$2p + 6$	$3x + 6 - 10x - 5$	$x^2 - 7x + 3p - 21$	$p^2 - 7p + 3p - 21$														
	$- 7x - 1$	$p^2 - 4p - 21$	$p^2 - 4p - 21$														
Simplify Expressions	Writing an expression shorter or in an easier to use form often by collecting like terms.	Factorising One common factor Two common factors Quadratic <table border="1"> <tr> <td>Factorise $12x - 18y$</td> <td>Factorise $15x^2 + 10xy$</td> <td>Sum of 2 Product $\times 8$</td> </tr> <tr> <td>HCF = 6</td> <td>HCF = 5x</td> <td>$x^2 + 5x + 6 = (x + 2)(x + 3)$</td> </tr> <tr> <td>$= 2(2x - 3y)$</td> <td>$= 5x(3x + 2y)$</td> <td></td> </tr> </table>	Factorise $12x - 18y$	Factorise $15x^2 + 10xy$	Sum of 2 Product $\times 8$	HCF = 6	HCF = 5x	$x^2 + 5x + 6 = (x + 2)(x + 3)$	$= 2(2x - 3y)$	$= 5x(3x + 2y)$							
Factorise $12x - 18y$	Factorise $15x^2 + 10xy$	Sum of 2 Product $\times 8$															
HCF = 6	HCF = 5x	$x^2 + 5x + 6 = (x + 2)(x + 3)$															
$= 2(2x - 3y)$	$= 5x(3x + 2y)$																
Expand	Removing brackets from an expression by multiplying everything inside by what is outside.																
Factorise	The opposite of expanding. Put brackets into an expression by removing a common factor.																
Rearrange (Change the subject)	So that another variable is the subject.																
Coefficient	The number you multiply a variable by.																
Quadratic	An expression in the form $ax^2 + bx + c$																
Substitute	Putting numbers where the letters are.																
Algebraic fraction	Expressions in the form of a fraction eg $\frac{2a + 5}{3b}$																
Key Facts																	
$2 \times a \times b$	$2ab$																
$4a + 5a$	$9a$																
$a \times a \times a$	a^3																
$a + b = c$	equation - with an equals sign																
$a > b < c$	inequality - uses the symbols in place of the equals sign to say if something is greater than or less than																
$a + b = c$	identity - like an equation but with three lines, it is an equation that is true no matter what values are substituted in																
$(a + b)^2$	$(a + b)(a + b)$																















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Year 10 Folder - Knowledge Organisers

Home Resources Maths Year 10 Knowledge Organisers Higher

 Word	 PDF	 Word	 Word	 Word	 Word
1. Revision List 8 October 2019 10:55	2. Number H.pdf 8 October 2019 10:55	3. Expressions H.docx 8 October 2019 10:55	4. Equations H.docx 8 October 2019 10:55	5. Area and Perimeter H.docx 8 October 2019 10:55	6. Similarity and Congruence H.docx 8 October 2019 10:55
 Word	 Word	 Word	 Word	 Word	 Word
7. Sequences H.docx 8 October 2019 10:55	8. Angles H.docx 8 October 2019 10:55	9. Ratio H.docx 8 October 2019 10:55	10. Proportion H.docx 8 October 2019 10:55	11. Fractions H.docx 8 October 2019 10:55	12. Percentages H.docx 8 October 2019 10:55



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Year 10 Folder - Knowledge Organisers

- “Revision List”

Contents

Year 10 - Autumn Term

1. Number
2. Expressions
3. Equations
4. Area & Perimeter
Tracking Point 1 (11.11.2019)
5. Similarity & Congruence
6. Sequences
7. Angles

Year 10 - Spring Term

1. Ratio
2. Proportion
3. Fractions
4. Percentages
5. Powers & Standard Form
Tracking Point 2 (24.02.2020)
6. Coordinates & Linear Graphs
7. Pythagoras & Trigonometry
8. Collecting Data

Year 10 - Summer Term

1. Displaying Data
2. Probability
3. Measures & Real Life Graphs
Tracking Point 3 (15.06.2020)

4. Inequalities
5. Transformations

Year 11 - Autumn Term

1. Proportion (Ratio revision)
2. Volume
3. Bearings, Constructions & Loci
4. Circle Theorems (Sectors revision)
Yr 11 TP4 PAPER 1 (07.10.2019)
5. Quadratic Equations & Graphs
Yr 11 TP4 PAPER 2 (21.10.2019)
6. Surds (Indices & SF revision)
7. Trigonometry (Pythagoras revision)
TP5 - MOCK EXAMS (Start 02.12.2019)

Year 11 – Spring Term

1. Functions (Sim. Equations revision)
2. Iteration (Sequences revision)
3. Transforming Graphs (Linear Graphs revision)
Year 11 TP6 PAPER 1 (31.01.2020)
4. Vectors (Angles revision)
Year 11 TP6 PAPER 2 (10.02.2020)
5. Equations of Circles
Year 11 TP6 PAPER 3 (11.03.2020)
6. **Revision**
GCSE Paper 1 (19.05.2020)
GCSE Paper 2 (04.06.2020)
GCSE Paper 3 (08.06.2020)



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Revision

On the VLE

- Year 10 – Knowledge organisers and topic revision lists for year 10 (and year 11)
- Graded Folders – Revision material aimed at specific grades
- Past Papers
- Useful Websites

- Exercise Books
- Revision guides available to buy at a cost of £6 (available from Mr Borrett in G18M) which includes a guide and workbook (RRP £11.90)
- Pixl Maths App



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Pixl Maths App

- Link to the desktop version in the “Useful Websites” section of the VLE.
- App downloadable on phone or tablet.
- Every year 10 student has their own login and password.



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Who to contact

- Childs maths teacher (emails are on the DHS website)
- Shane Borrett – sborrett1@durring.com



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