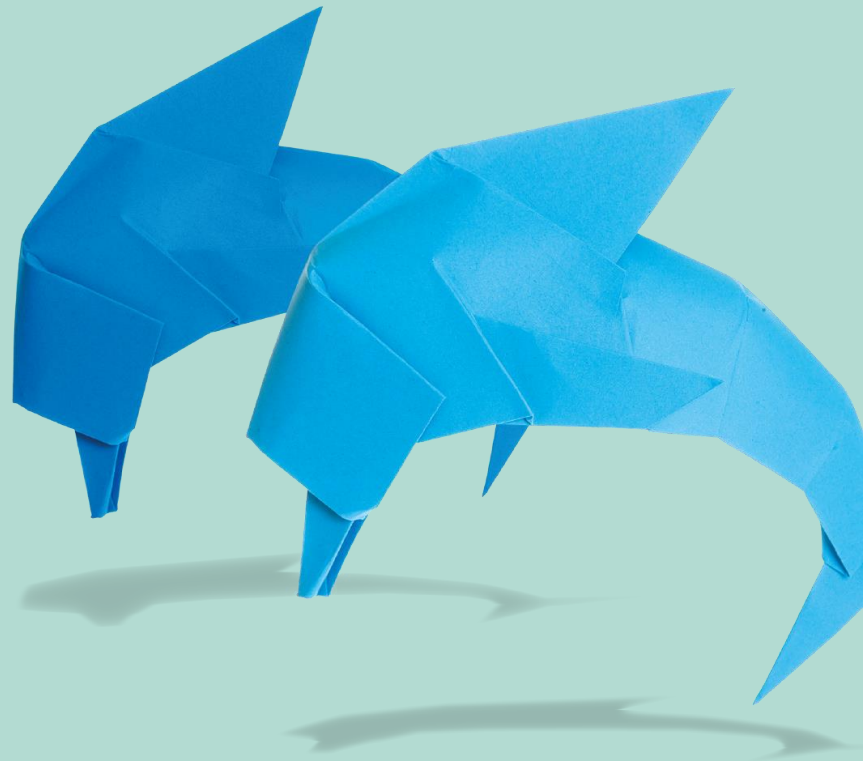


GCSE Mathematics

GCSE Mathematics
November 2023
Exam Feedback Session

Nicola Woodford-Smith



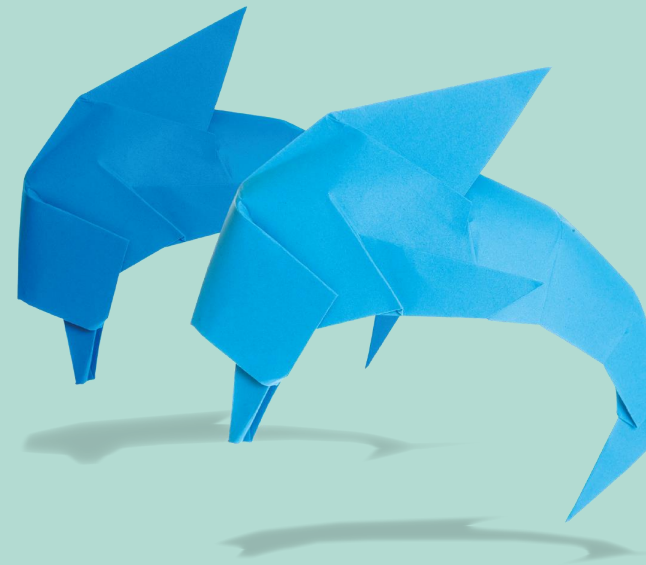
Agenda

- Entry Data
- Crossover questions (77 marks)
- The First Five (“One Markers”)
- Foundation Tier
 - Winners & In Progress topics
- Examiner Key Notes
- Grade boundaries
- Ongoing support - What’s available now

Entry Data

- Edexcel – 34,899 (57.3% of total)
93% of entries at Foundation Tier
7% of entries at Higher Tier
- AQA – 20,198 (33.1% of total)
- OCR - 3,185 (5.2% of total)
- Eduqas – 2,669 (4.4% of total)
- November 2023 (All England) - 60951

Crossover Analysis



Crossover Paper 1F/1H (26 marks)

1MA1 - November 2023					Mean scores of students who achieved grade			
Question	Skill tested	Mean score	Max score	Mean %	ALL	5	4	3
1F NON CALCULATOR (F)								
Q18	Apply four operations	1.64	3	55	1.64	2.66	2.18	1.65
Q19ai	Index notation	0.22	1	22	0.22	0.63	0.36	0.20
Q19aai	Index notation	0.03	1	3	0.03	0.31	0.05	0.02
Q19b	Index notation	0.52	2	26	0.52	1.44	0.89	0.49
Q20a	Primes, factors, multiples	0.89	2	45	0.89	1.67	1.35	0.92
Q20b	Primes, factors, multiples	0.67	2	34	0.67	1.40	1.01	0.67
Q21a	Measures of central tendency (median, mean, mode and	0.44	3	15	0.44	2.05	0.86	0.39
Q21b	Measures of central tendency (median, mean, mode and	0.07	1	7	0.07	0.51	0.15	0.05
Q22	Constructions and loci	0.66	2	33	0.66	0.96	0.75	0.68
Q23	Properties of angles	0.14	4	4	0.14	1.82	0.31	0.08
Q24	Translate situations or procedures into algebraic express	0.37	5	7	0.37	3.47	0.98	0.20
1H NON-CALCULATOR (H)								
Q01	Apply four operations	2.38	3	79	2.38	2.61	2.36	2.14
Q02ai	Index notation	0.77	1	77	0.77	0.88	0.78	0.59
Q02aai	Index notation	0.51	1	51	0.51	0.67	0.38	0.20
Q02b	Index notation	1.40	2	70	1.40	1.65	1.45	0.96
Q03a	Primes, factors, multiples	1.57	2	79	1.57	1.75	1.55	1.31
Q03b	Primes, factors, multiples	1.27	2	64	1.27	1.41	1.21	1.00
Q04a	Measures of central tendency (median, mean, mode and	1.49	3	50	1.49	1.83	1.22	0.58
Q04b	Measures of central tendency (median, mean, mode and	0.41	1	41	0.41	0.52	0.31	0.10
Q05	Constructions and loci	0.81	2	41	0.81	0.82	0.75	0.63
Q06	Properties of angles	1.34	4	34	1.34	1.66	0.89	0.20
Q07	Translate situations or procedures into algebraic express	2.36	5	47	2.36	2.99	1.87	0.69

Crossover Paper 2F/2H (25 marks)

1MA1 - November 2023					Mean scores of students who achieved grade			
Question	Skill tested	Mean score	Max score	Mean %	ALL	5	4	3
2F CALCULATOR (F)								
Q22a	Expand expressions	1.16	2	58	1.16	1.82	1.52	1.18
Q22b	Factorise expressions	0.80	2	40	0.80	1.61	1.27	0.80
Q22c	Rearrange formulae to change the subject	0.29	2	14	0.29	1.52	0.62	0.23
Q23	Percentages and problems involving percentage change	2.17	4	54	2.17	3.32	2.64	2.21
Q24	Growth and decay, compound interest	0.65	2	33	0.65	1.59	1.04	0.63
Q25	Solve linear equations	0.90	3	30	0.90	2.67	1.68	0.83
Q26	Ratio in real context	0.66	4	17	0.66	2.32	1.10	0.63
Q27	Scale drawings and bearings	0.02	2	1	0.02	0.24	0.03	0.01
Q28	Volume cuboids and other right prisms (including cylinde	0.33	4	8	0.33	1.60	0.58	0.29
2H CALCULATOR (H)								
Q01a	Expand expressions	1.69	2	85	1.69	1.82	1.74	1.54
Q01b	Factorise expressions	1.41	2	71	1.41	1.59	1.43	1.16
Q01c	Rearrange formulae to change the subject	1.37	2	69	1.37	1.78	1.44	0.60
Q02	Percentages and problems involving percentage change	2.84	4	71	2.84	3.16	2.75	2.26
Q03	Percentages and problems involving percentage change	1.48	2	74	1.48	1.74	1.51	1.13
Q04	Solve linear equations	2.35	3	78	2.35	2.82	2.51	1.64
Q05	Ratio in real context	1.86	4	47	1.86	2.30	1.54	0.90
Q06	Scale drawings and bearings	0.24	2	12	0.24	0.17	0.08	0.04
Q07	Volume cuboids and other right prisms (including cylinde	1.23	4	31	1.23	1.39	0.80	0.39

Crossover Paper 3F/3H (26 marks)

1MA1 - November 2023					Mean scores of students who achieved grade			
Question	Skill tested	Mean score	Max score	Mean %	ALL	5	4	3
3F CALCULATOR (F)								
Q20a	Standard form	0.43	1	43	0.43	0.82	0.67	0.43
Q20b	Standard form	0.32	1	32	0.32	0.81	0.53	0.31
Q21	Randomness, fairness and equally likely events	1.18	2	59	1.18	1.79	1.49	1.20
Q22a	Measures of central tendency (median, mean, mode a	0.51	3	17	0.51	1.94	1.00	0.44
Q22b	Measures of central tendency (median, mean, mode a	0.03	1	3	0.03	0.24	0.07	0.03
Q23a	Solve linear equations	1.22	2	61	1.22	1.60	1.46	1.25
Q23b	Solve linear equations	0.48	2	24	0.48	1.23	0.83	0.46
Q24	Primes, factors, multiples	2.33	3	78	2.33	2.80	2.68	2.47
Q25	Construct and interpret equations that describe invers	0.60	2	30	0.60	1.51	0.95	0.58
Q26	Use compound units	0.98	3	33	0.98	2.42	1.41	0.97
Q27	Use compound units	0.53	3	18	0.53	1.76	0.79	0.50
Q28	Graphs and equations of lines	0.08	3	3	0.08	0.96	0.17	0.05
3H CALCULATOR (H)								
Q01a	Standard form	0.81	1	81	0.81	0.92	0.86	0.69
Q01b	Standard form	0.73	1	73	0.73	0.86	0.76	0.52
Q02	Randomness, fairness and equally likely events	1.62	2	81	1.62	1.78	1.65	1.30
Q03a	Measures of central tendency (median, mean, mode a	1.25	3	42	1.25	1.50	0.92	0.72
Q03b	Measures of central tendency (median, mean, mode a	0.26	1	26	0.26	0.31	0.17	0.06
Q04a	Represent the solution set of inequality on a number li	1.65	2	83	1.65	1.75	1.65	1.55
Q04b	Solve linear inequalities	1.11	2	56	1.11	1.28	1.08	0.74
Q05	Primes, factors, multiples	2.57	3	86	2.57	2.73	2.64	2.23
Q06	Solve problems involving direct and inverse proportion	1.30	2	65	1.30	1.47	1.25	0.84
Q07	Change between standard units and compound units	1.90	3	63	1.90	2.31	1.69	1.09
Q08	Use compound units	1.63	3	54	1.63	1.93	1.45	0.86
Q09	Graphs and equations of lines	1.20	3	40	1.20	1.59	0.66	0.13

Question	Skill tested	Mean score	Max score	Mean %	ALL	5	4	3	2	1	U
Q22	Constructions and loci	0.66	2	33	0.66	0.96	0.75	0.68	0.56	0.42	0.27

1F/H Question 22/5

- 22 The point P lies on the line AB .
Use ruler and compasses to construct an angle of 90° at P .
You must show all your construction lines.



(Total for Question 22 is 2 marks)

Question	Skill tested	Mean score	Max score	Mean %	ALL	9	8	7	6	5	4	3
Q05	Constructions and loci	0.81	2	41	0.81	1.64	1.27	1.03	0.90	0.82	0.75	0.63

Question	Skill tested	Mean score	Max score	Mean %	ALL	5	4	3	2	1	U
Q27	Scale drawings and bearings	0.02	2	1	0.02	0.24	0.03	0.01	0.00	0.00	0.01

2F/H Question 27/6

- 27 The bearing of port *B* from port *A* is 147°
 Work out the bearing of port *A* from port *B*.

.....
 (Total for Question 27 is 2 marks)

Question	Skill tested	Mean score	Max score	Mean %	ALL	9	8	7	6	5	4	3
Q06	Scale drawings and bearings	0.24	2	12	0.24	1.64	1.18	0.69	0.38	0.17	0.08	0.04

Question	Skill tested	Mean score	Max score	Mean %	ALL	5	4	3	2	1	U
Q22	Measures of central tendency (median, mean)	0.54	4	14	0.54	2.18	1.07	0.47	0.19	0.06	0.02

3F/H Question 22/3

- 22** Seija works at a weather station.
The table gives information about the temperature, $T^{\circ}\text{C}$, at midday for each of 50 cities in the UK on Tuesday.

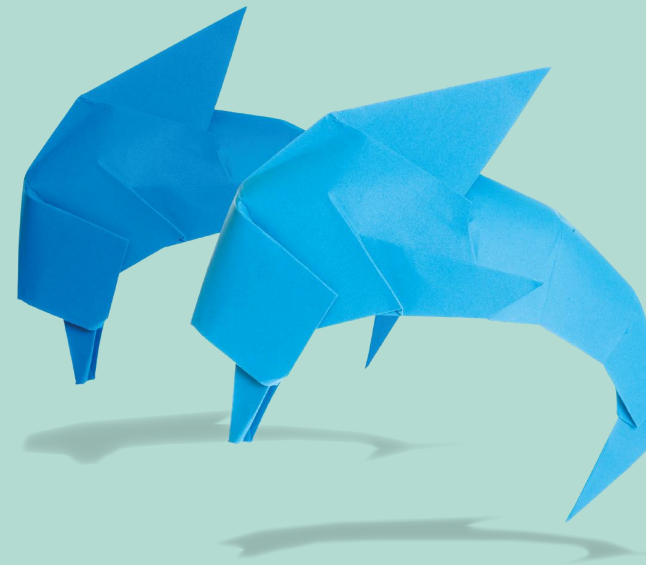
Temperature ($T^{\circ}\text{C}$)	Frequency
$10 < T \leq 15$	2
$15 < T \leq 20$	8
$20 < T \leq 25$	13
$25 < T \leq 30$	21
$30 < T \leq 35$	6

- (a) Calculate an estimate for the mean temperature.

..... $^{\circ}\text{C}$
(3)

Question	Skill tested	Mean score	Max score	Mean %	ALL	5	4	3	2	1	U
Q03	Measures of central tendency (median, mean)	1.51	4	38	1.51	1.81	1.09	0.78	–	–	0.22

Foundation Tier The First Five



The First Five...1F

Question	Skill tested	Mean score
1F NON CALCULATOR (F)		
Q01	Measures of spread (range, including consideration of	0.76
Q02	Apply four operations	0.91
Q03	Algebraic manipulation	0.86
Q04	Scale drawings and bearings	0.61
Q05	Fractions, decimals and percentages as operators	0.82

1 Here is a list of numbers.

2 4 4 7 8

Work out the range of these numbers.

.....
(Total for Question 1 is 1 mark)

2 Work out $120 - 89$

3 Simplify $3 \times a \times 4$

4 Measure the size of the angle marked x .



.....°
(Total for Question 4 is 1 mark)

5 Work out $\frac{1}{5}$ of 300

.....
(Total for Question 5 is 1 mark)

The First Five...2F

Question	Skill tested	Mean score
2F CALCULATOR (F)		
Q01	Primes, factors, multiples	0.95
Q02	Conversion between fractions, decimals and percentages	0.90
Q03	Change between standard units and compound units	0.71
Q04	Roots and powers	0.70
Q05	Fractions, decimals and percentages as operators	0.96

1 Write down two factors of 18

2 Write 0.9 as a fraction.

3 Change 7 metres to centimetres.

4 Write down a square number that is between 10 and 50

5 Work out 50% of 240

The First Five...3F

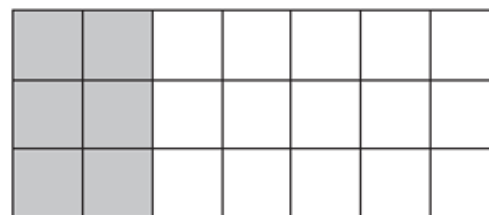
Question	Skill tested	Mean score
3F CALCULATOR (F)		
Q01	Percentages and problems involving percentage change	0.95
Q02	Rounding; Inequality notation to specify error interval	0.83
Q03	Order numbers	0.83
Q04	One quantity as a fraction of another	0.93
Q05	Place value	0.45

1 Write 35% as a decimal.

2 Write 8061 correct to the nearest hundred.

3 Write down a number that is less than -5

4 Here is a grid of squares.



What fraction of the grid is shaded?

5 Write down the value of the 9 in the number 27.963

Uniths???



Foundation Tier Winners

1F Question 12

12 $P = 2g + 4h$

(a) (i) Work out the value of P when $g = 3$ and $h = 5$

$$P = \dots\dots\dots (2)$$

(ii) Work out the value of g when $P = 38$ and $h = 3$

$$g = \dots\dots\dots (2)$$

$V = 3r - q$

(b) Work out the value of V when $r = -3$ and $q = 2$

$$V = \dots\dots\dots (2)$$

(Total for Question 12 is 6 marks)

Question	Skill tested	Mean score	Max score	Mean %	ALL	5	4	3	2	1	U
Q12ai	Substitute values into formulae and expressions	1.75	2	88	1.75	1.99	1.95	1.84	1.50	1.04	0.73
Q12aii	Solve linear equations	1.06	2	53	1.06	1.84	1.49	1.10	0.64	0.37	0.20
Q12b	Substitute values into formulae and expressions	1.19	2	60	1.19	1.88	1.57	1.24	0.83	0.45	0.29

Question	Skill tested	Mean score	Max score	Mean %	ALL	5	4	3	2	1	U
Q18	Rounding; Inequality notation to specify error	2.37	3	79	2.37	2.79	2.63	2.42	2.13	1.71	0.94

2F Question 12

18 (a) Work out $\frac{9.8 + 6.8}{4.2 \times 2.1}$

Give your answer as a decimal.

Write down all the figures on your calculator display.

.....
(2)

(b) Write your answer to part (a) correct to 2 decimal places.

.....
(1)

(Total for Question 18 is 3 marks)

Question	Skill tested	Mean score	Max score	Mean %	ALL	5	4	3	2	1	U
Q17	Use compound units	1.75	3	58	1.75	2.76	2.28	1.82	1.16	0.52	0.20

3F Question 17

- 17** Blake works 32 hours a week in the UK.
She is paid £473.28 per week.
- Blake applies for a job in Australia.
The rate of pay is 26.40 Australian dollars per hour.
- £1 = 1.796 Australian dollars
- Blake thinks the rate of pay in Australia is greater than the rate of pay in the UK.
- Is Blake correct?
You must show how you get your answer.

(Total for Question 17 is 3 marks)



Foundation Tier
'In Progress'

Question	Skill tested	Mean score	Max score	Mean %	ALL	5	4	3	2	1	U
Q19	Index notation	0.77	4	19	0.77	2.38	1.30	0.71	0.36	0.19	0.11

1F Question 19

19 (a) (i) Write down the value of 5^0

.....
(1)

(ii) Write down the value of 5^{-2}

.....
(1)

(b) Write $\frac{2^5 \times 2^4}{2^3}$ in the form 2^n where n is an integer.

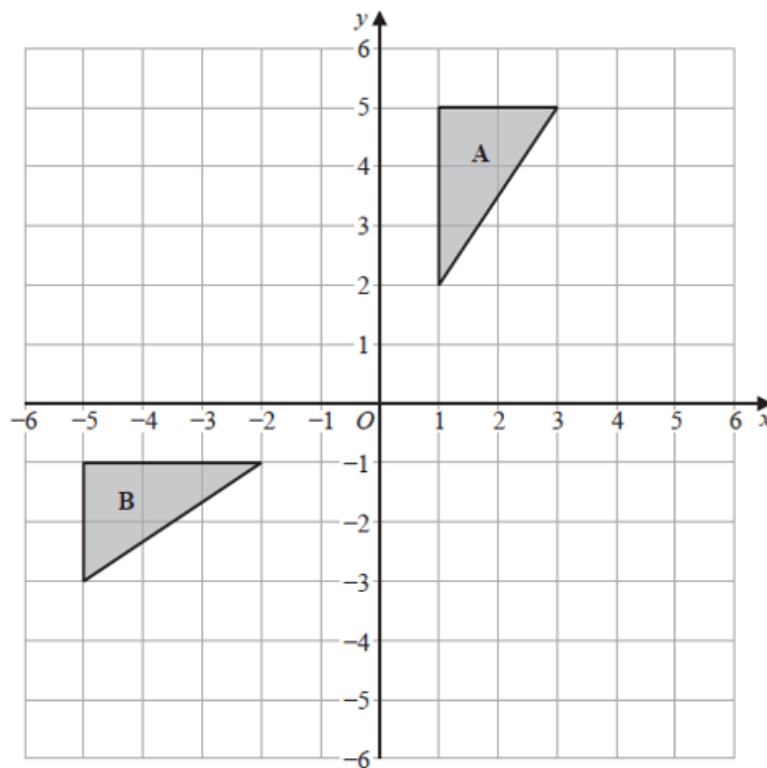
.....
(2)

(Total for Question 19 is 4 marks)

Question	Skill tested	Mean score	Max score	Mean %	ALL	5	4	3	2	1	U
Q21	Transformations	0.09	2	5	0.09	0.37	0.14	0.08	0.05	0.05	0.02

2F Question 21

21



Describe fully the single transformation that maps triangle A onto triangle B.

(Total for Question 21 is 2 marks)

3F Question 20

20 (a) Write 468 000 in standard form.

.....
(1)

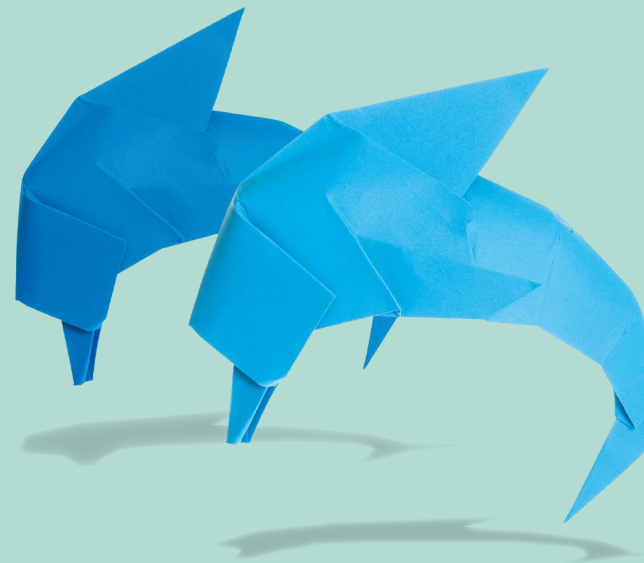
(b) Write 5.037×10^{-4} as an ordinary number.

.....
(1)

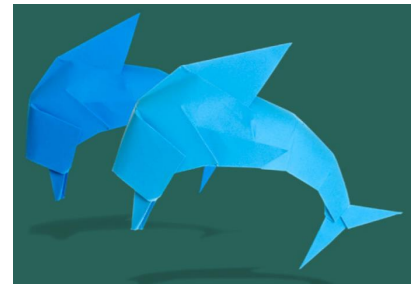
(Total for Question 20 is 2 marks)

Question	Skill tested	Mean score	Max score	Mean %	ALL	5	4	3	2	1	U
Q20	Standard form	0.75	2	38	0.75	1.63	1.20	0.74	0.38	0.14	0.05

Examiner Key Notes



Foundation Tier



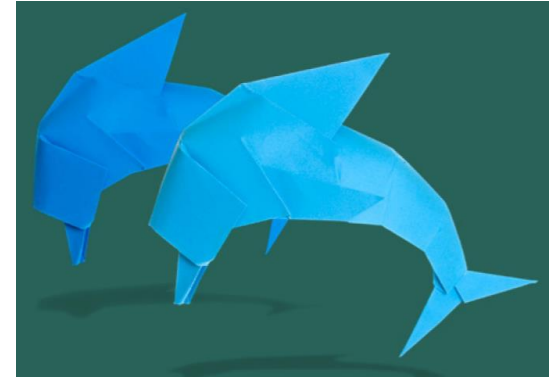
Topics of focus:

- show a full method for percentage calculations
 - problems involving ratio
 - measuring angles accurately
 - manipulating algebraic expressions
-
- show a full method for percentage calculation
 - check if their answers are sensible.
 - have access to a suitable calculator and have a good working knowledge of how to use it
 - avoid rounding or truncating answers to calculations
 - this year candidates showed significant weaknesses in handling issues to do with time, and proportion.

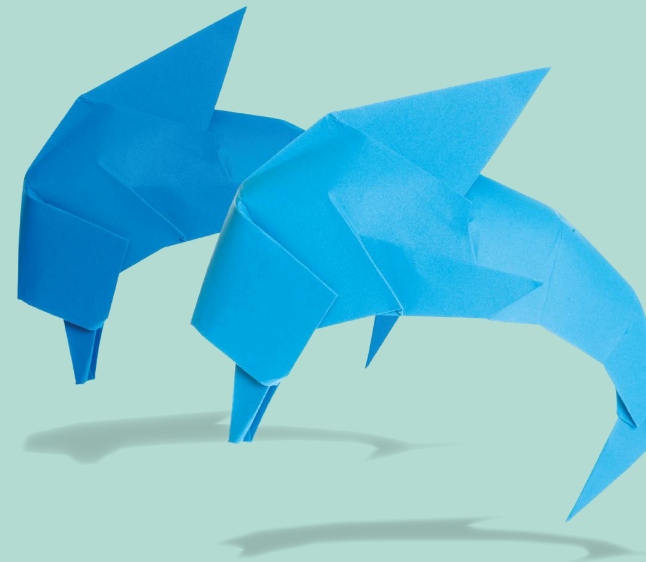
Higher Tier

Topics of focus

- Bearings
 - Gradients of lines
 - algebraic manipulation
-
- standard ruler and compass constructions
 - difference between standard and reverse percentage
 - practice using the quadratic formula
 - Ensure they are familiar with the formula sheet as it will be available in Summer.



Grade Boundaries



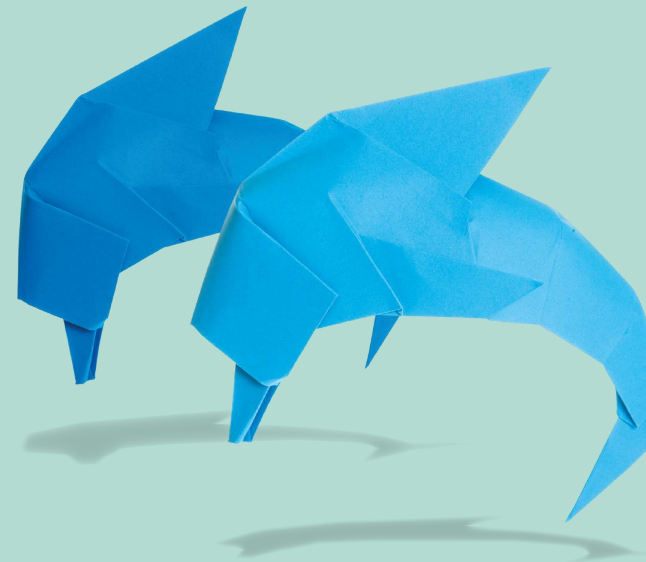
Grade Boundaries

1MA1 overall		9	8	7	6	5	4	3	2	1
1MA1F	Foundation tier					175	140	104	68	33
1MA1H	Higher tier	203	174	145	112	79	47	31		

✓ **25% improved
on their grade
from Summer
2023**

✓ **23.8% gained a
grade 4 or
above, which is
~8,300
candidates.
Nationally this
was 22.9%**

Looking ahead...



Maths Emporium – Practice Papers & more

- shadow papers,
- [Foundation Tier Themed papers](#) and [Higher Tier themed papers](#) with worked solutions,
- 24 practice sets,
- AO3 Bronze, Silver, Gold practice papers
- crossover question papers,
- 9 sets of mock papers
- past papers, mark schemes, examiner reports



 [Edexcel GCSE \(9-1\) Mathematics Foundation Tier Exam Aid](#) *New!*



 [Edexcel GCSE \(9-1\) Mathematics Higher Tier Exam Aid](#) *New!*



Post-16 GCSE Maths Support

Key Documents all found on the Emporium

- November 2023 Shadow papers
- November 2023 Crossover papers
- Skills map grids
- Exemplars *coming soon
- Examiner's Reports

NEW [Boost Resources](#) for Post-16



GCSE (9–1) Mathematics

Post-16 boost
New resources and support

Scheme of Work
A modified Scheme of Work focusing on **28 core topics**. 

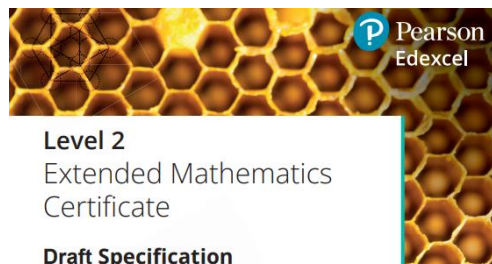
Themed Papers
12 new themed papers using **carefully selected GCSE Maths questions**, suitable for a Further Education context. 
Themes:
Agriculture, Animal Care, Catering, Construction, Engineering, Equine Studies, Hair & Beauty, Health & Social Care, Horticulture, Motor Vehicle, Sports Studies, Travel & Tourism.

Lesson Plans
31 lesson plans with a **focus on practical applications** in a Further Education context. 

Live Network Event
A **free** showcase network event on **5th May** to provide an **overview to all the new resources** that have been designed to help support students studying GCSE maths in a post-16 setting. 

On-screen diagnostic Assessments
Coming September 2022! 
An easy approach to **diagnosing your students' needs** in under an hour using an on-screen platform.

NEW Level 2 Extended Maths Certificate



Pearson Edexcel Level 2 Extended Mathematics
First teaching from September 2024 | First Issue 1



Level 2
Extended
Mathematics
certificate
Course Guide



bitty

Giving students the **opportunity to challenge** themselves at Key Stage 4 and build the **perfect foundation** for further study.

Attend our **FREE** launch events:
8th February (4-5pm) and
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Scan the QR code or [use this link](#) to **register your interest** and to find out more.

Our Podcast: The Right Angle

Our mission is to help shape the future of education by addressing the trending topics and dilemmas of the Maths world in the UK.

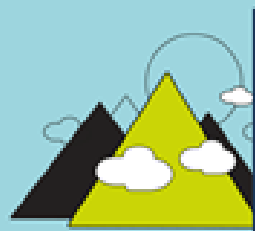
New episodes every month. Here's some you may have missed, Prof Nira Chamberlain, Dr Frost, Bobby Seagull, Prof Hannah Fry and more...



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