GCSE

WJEC GCSE Mathematics and Numeracy (Double Award)

Approved by Qualifications Wales

Sample Assessment Materials

Unit 2: Non-calculator
Foundation Tier
Teaching from 2025
For award from 2026

This Qualifications Wales regulated qualification is not available to centres in England.

Made for Wales.
Ready for the world.

WJEC would like to thank the students and teachers of Fitzalan High School, Cardiff and Llanwern High School, Newport for their participation in the creation of these covers.

Contents

Surname	Centre number	Candidate number
First name(s)		0

GCSE

3320U2

GCSE Mathematics and Numeracy (Double Award)
Unit 2: Non-calculator

Foundation Tier

1 hour 30 minutes
SAMPLE ASSESSMENT MATERIALS

Additional materials

The use of a calculator is not permitted in this examination.

A ruler, a protractor and a pair of compasses may be required.

Instructions to candidates

Use black ink or black ball-point pen. Do **not** use gel pen or correction fluid.

You may use a pencil for graphs and diagrams only.

Write your name, centre number and candidate number in the spaces provided at the top of this page.

Answer **all** the questions in the spaces provided.

If you need more space, use the additional page(s) at the back of this booklet. Number the question(s) correctly.

Take π as 3·14.

Information for candidates

The number of marks is given in brackets at the end of each question or part-question.

In question 7, the assessment will take into account the quality of your mathematical organisation, communication and accuracy in writing.

For examiner's use only		
Question	**Maximum mark**	**Mark awarded**
1.	4	
2.	3	
3.	2	
4.	3	
5.	2	
6.	5	
7.	6	
8.	3	
9.	4	
10.	4	
11.	3	
12.	4	
13.	3	
14.	4	
15.	3	
16.	3	
17.	5	
18.	4	
Total	**65**	

Answer **all** questions.

Examiner only

1. (a) The attendance figures for two rugby matches are shown below.

Match A attendance	**Match B attendance**
30 152	23 451

(i) Write down, in words, the attendance at Match A. [1]

…….....

…….....

(ii) Write the attendance at Match B correct to the nearest hundred. [1]

…….....

…….....

(b) A number has **exactly** four factors. [1]
Its factors are 1, 3, 9 and the number itself.
What is the number?

…….....

.....

(c) Write these numbers in order, starting with the lowest number. [1]

–7 0 –10 11

lowest highest

Examiner only

2. Here is a list of some 2-D shapes.

Equilateral triangle	Isosceles triangle	Kite	Parallelogram

Rhombus	Rectangle	Scalene triangle	Trapezium

Using **only the shapes in the list**, write down the special name for:

(a) each of the two shapes whose sides are all of equal length [2]

…..……and ……..……

(b) the quadrilateral with four angles of equal size. [1]

……

……

3. Siôn completes a reading test and a spelling test. [2]
His scores are shown in the table below.

Examiner only

Test	Score
Reading	$\frac{7}{10}$
Spelling	$\frac{3}{4}$

In which test did Siôn get the greater score?

Reading ☐ Spelling ☐

You must show working to support your answer.

……

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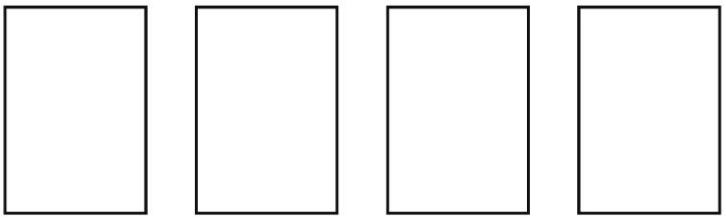
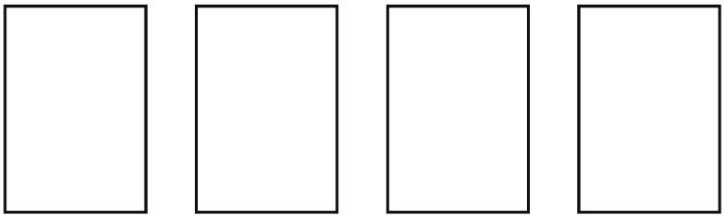
Examiner only

4. (a) Ceryn and Hywel each have a set of four cards.
A card is chosen at random from each set of cards.

(i) Write a number on each of Ceryn's four cards so that it is **likely** that her chosen card will show a 6. [1]



(ii) Write a number on each of Hywel's four cards so that it is **impossible** that his chosen card will show an even number. [1]



(b) Abdi has a bag containing ten counters. [1]
There are five blue counters and five red counters in the bag.

Abdi adds yellow counters to the bag.

Now, when Abdi selects a counter at random from the bag, there is an even chance of selecting a yellow counter.

How many yellow counters did Abdi add to the bag?

….....

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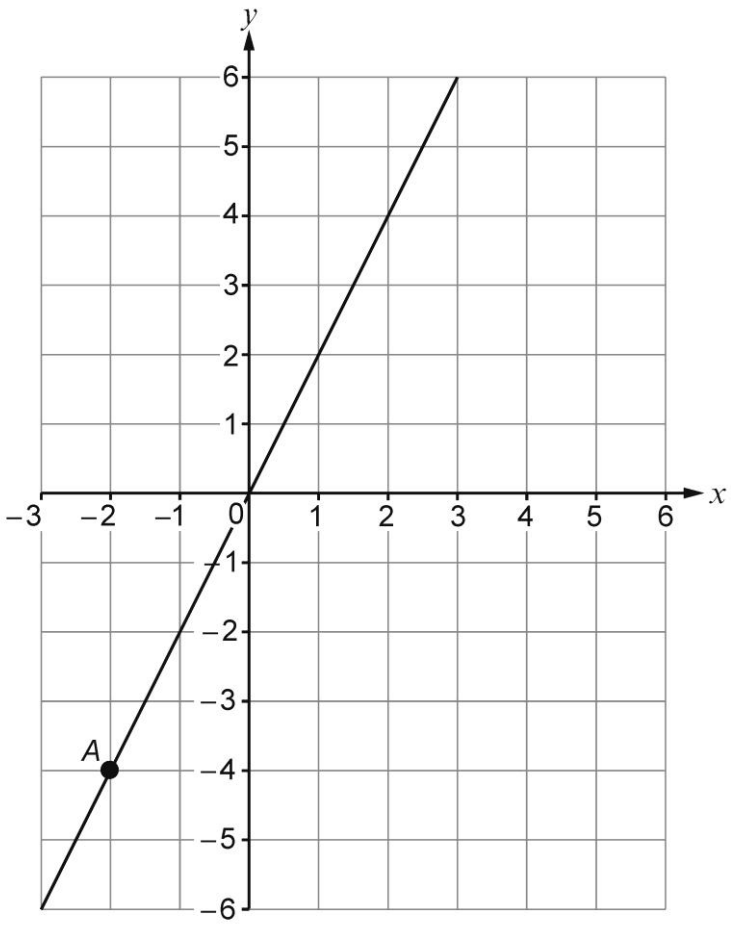
.....

Abdi adds …….. yellow counters to the bag.

Examiner only

5. The grid below shows part of a straight line that passes through the point *A*.



(a) What are coordinates of the point *A*? [1]

(…….. , ……..)

(b) Bethan thinks that, if the straight line was extended, the line would go through the point (6, 10). [1]

Is Bethan correct?

YES ☐ NO ☐

Explain your reasoning.

…….....

…….....

…….....

6. (a) Calculate 13^2. [1]

Examiner only

…….

…….

(b) Write down $\sqrt{81}$. [1]

…….

…….

(c) Calculate 30 – 5 × 4. [1]

…….

…….

(d) Write down the prime number between 20 and 28. [1]

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…….

(e) Calculate 20 ÷ 0·4. [1]

…….

…….

Examiner only

7. *In this question, you will be assessed on the quality of your organisation, communication and accuracy in writing.*

In the diagram below, *ABCD* and *DEFG* are two identical squares.

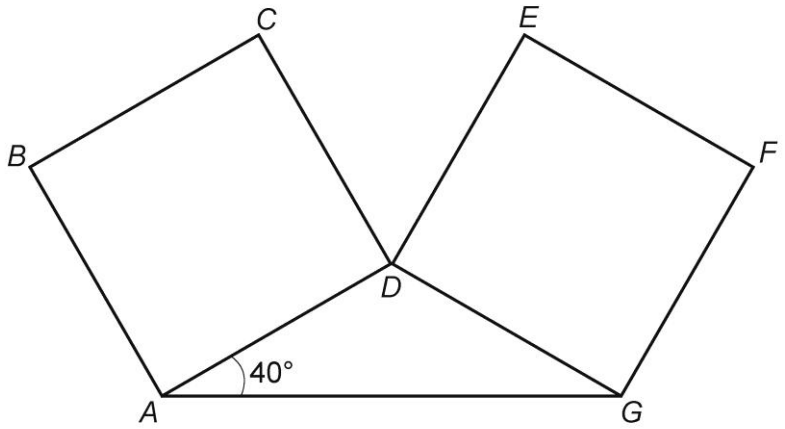

Diagram not drawn to scale

Show that angle $C\hat{D}E$ is an acute angle. [4 + 2 OCW]
You must show all your working.

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8. David has three rocks, labelled A, B and C. [3]
Rock A has a mass of 6·21 kg.
Rock B has a mass of 3·5 kg.

The three rocks are placed on a weighing scale.
The total mass of the three rocks is 12·46 kg.

Calculate the mass of the rock C.

……...

……...

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Mass of rock C = …….. kg

9. (a) Simplify $2x + 4x - x$. [1]

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(b) Simplify $8y \times 6$. [1]

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(c) Find the value of $2t + 4w$ when $t = -5$ and $w = 8$. [2]

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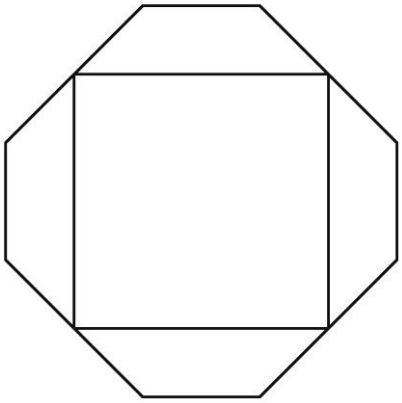
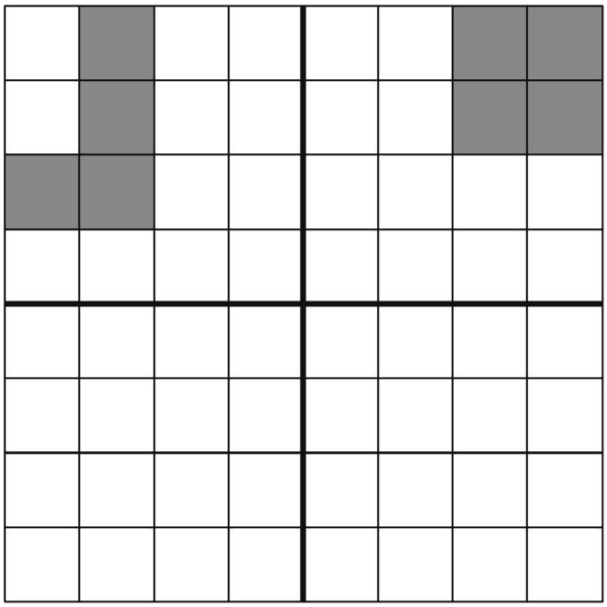
Examiner only

10. (a) Draw all the lines of symmetry on the following diagram. [2]

Examiner only



(b) Shade the least number of squares so that the grid has rotational symmetry of order 2. [2]



11. 32 players took part in the Snooker World Championship in 2024. [3]
Some players were from Wales, some came from the rest of Great Britain, and the remainder came from the rest of the world.

There were three times as many players from the rest of Great Britain as there were from Wales.
There were two more players from the rest of the world than there were from Wales.

Calculate how many players came from each region.

……...

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……...

……...

……...

Wales ……..... Rest of Great Britain …… Rest of the world …...……

Examiner only

Examiner only

12. Bag A contains five cards numbered 1, 3, 5, 7 and 9, respectively.
Bag B contains four cards numbered 2, 4, 6 and 8, respectively.

Kate plays a game.
In a game, she takes one card from Bag A and one card from Bag B.
Her score is found by calculating the **product** of the two numbers.

(a) Complete the table to show all of her possible scores. [2]

Bag A \ Bag B	2	4	6	8
9	18	.....	54	.....
7	14	.....	42	.....
5	10	.....	30	.....
3	6	.....	18	.....
1	2	.....	6	.....

(b) Kate wins a prize if she gets a score of 20 or less.
What is the probability that she wins a prize? [2]

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13. Solve $13d + 9 = 5d - 31$. [3]

Examiner only

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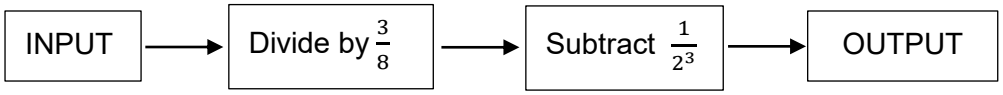
14. A number machine is shown below.



The INPUT number is $2\frac{5}{8}$.

What is the OUTPUT number?

Give your answer as a mixed number. [4]

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15. Find the size of each of the angles marked a, b and c. [3]

Examiner only

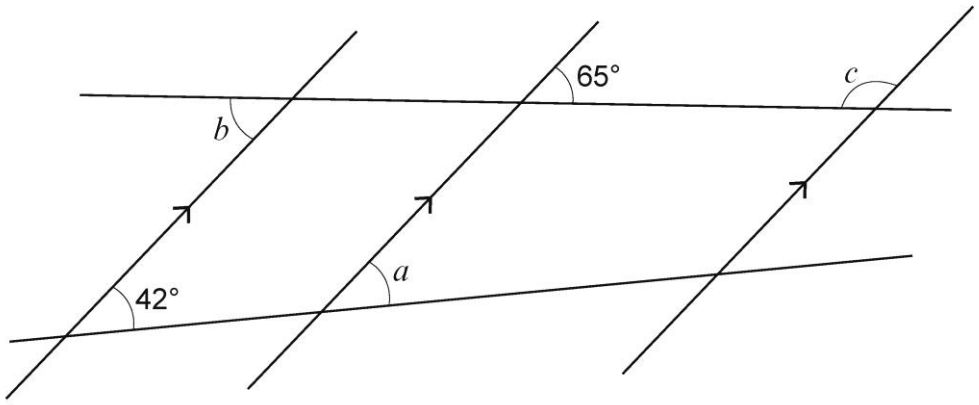

Diagram not drawn to scale

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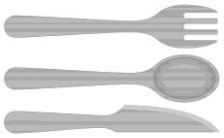
a = ……. ° b = ……. ° c = ……. °

16. Delyth is making some packs of wooden cutlery for her food stall at the market. Each pack contains one knife, one fork and one spoon. [3]

Examiner only



To make up these packs, Delyth buys:

- some boxes that contain 14 wooden knives each
- some boxes that contain 16 wooden forks each
- some boxes that contain 10 wooden spoons each.

Delyth wants to buy the **least possible number of boxes** so that, in making up the packs, she uses **all** of the knives, forks and spoons she has bought.

Complete the table below to show the number of boxes of each item that Delyth needs to buy.
You must show all your working.

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	Number of boxes needed
Knives (14 in each box)	…….. boxes
Forks (16 in each box)	…….. boxes
Spoons (10 in each box)	…….. boxes

Examiner only

17. Rhodri Jones works with his 2 daughters in their family business.

Rhodri is x years old, where x is a whole number.
Megan, his older daughter, is $(x - 23)$ years old.
Gwenda, his younger daughter is 5 years younger than Megan.

On the Jones family business website, it states the following:

> Well-established family business!
> The total age of our 3 workers is greater than 100 years.

Form and solve an inequality to find the youngest possible age Rhodri could be for the last statement to be true. [5]

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Examiner only

18. Every weekend, Ravi works on Saturday and on Sunday.
Ravi is given one job to do on Saturday and one job to do on Sunday.
The options for the job he could be given on either day are:

- answer the phone
- pack boxes.

On any weekend, the probability that Ravi is given the job to:

- answer the phone on Saturday is 0.2
- pack boxes on Sunday is 0.6.

The job given to Ravi on one day is independent of the job given to him on the other day.

(a) Complete the tree diagram below. [2]

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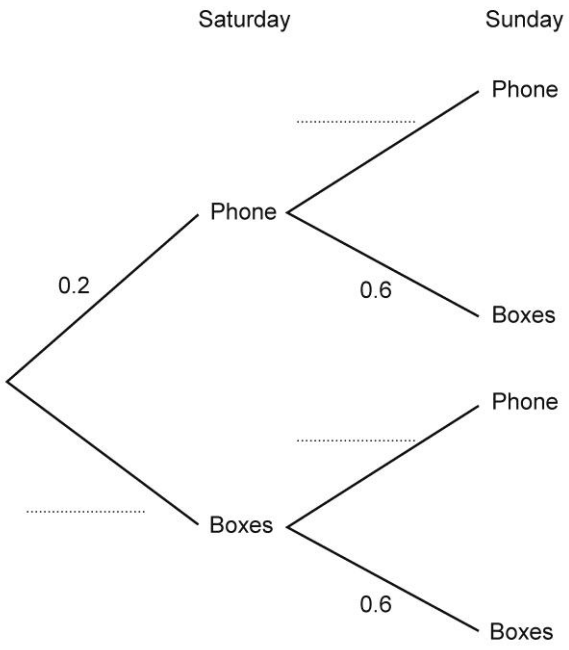

(b) Calculate the probability that, next weekend, Ravi is given the job to pack boxes on Saturday and on Sunday. [2]

Examiner only

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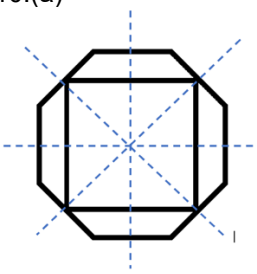
END OF QUESTIONS

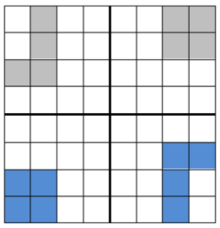
Question number	Additional page, if required. Write the question number(s) in the left-hand margin.
	…… ……

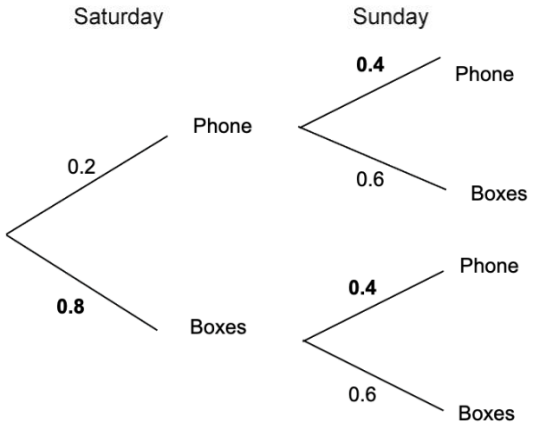
Examiner only

Mark Scheme

GCSE Mathematics and Numeracy Unit 2: Foundation Tier SAMS	Mark	Comments
1.(a)(i) thirty thousand one hundred (and) fifty-two	B1	
1.(a)(ii) 23 500	B1	
1.(b) 27	B1	
1.(c) –10 –7 0 11	B1	
2.(a) equilateral triangle (and) rhombus	B2	B1 for each.
2.(b) rectangle	B1	
3. Spelling selected, with sight of $\frac{14}{20}$ AND $\frac{15}{20}$ OR 70% AND 75% OR 0.7(0) AND 0.75 OR Two correct calculations for a common amount.	B2	Award B2 for Spelling selected and one of the following: • both fractions with a common denominator (could include decimals as numerators denominators). Allow fully correct pictorial representation, e.g. equal split boxes with correct shading. • both correct percentages • both correct decimals • correct work using a common amount. Award B1 for one of the following: • both fractions written with a common denominator, one of which is correct. Allow partially correct pictorial representation, e.g. equal split boxes with one shading correct, one incorrect. • one correct percentage • one correct decimal • two correct conversions but Reading selected or neither box selected. B0 for selecting Spelling with no conversions.
4.(a)(i) Exactly three 6s and any other number	B1	The other number must not be a 6.
4.(a)(ii) Any four odd numbers.	B1	
4.(b) 10	B1	
5.(a) (–2, –4)	B1	
5.(b) No indicated with suitable reason e.g. 'the y coordinate is always double the x coordinate' 'it would go through (5,10)' 'it would go through (6,12)'	E1	Accept equivalent reasons
6.(a) 169	B1	
6.(b) 9	B1	Accept ±9.
6.(c) 10	B1	
6.(d) 23	B1	
6.(e) 50	B1	

7. ($A\hat{G}D$ =) 40(°) ($A\hat{D}G$ = 180 – 2 × 40 =) 100(°) ($C\hat{D}E$ =) 360 – 90 – 90 – 100 = 80(° < 90°, therefore it's acute)	 B1 B1 M1 A1	Check diagram. FT 'their derived/stated $A\hat{D}G$' provided obtuse.
Organisation and communication Writing	OC1 W1	For OC1, candidates will be expected to: • present their response in a structured way • explain to the reader what they are doing at each step of their response • lay out their explanations and working in a clear and logical way • write a conclusion that draws together their results and explains what their answer means For W1, candidates will be expected to: • show all their working • use correct mathematical form in their working • use appropriate terminology, units, etc.
8. (Mass of rock C =) 12.46 – 6.21 – 3.5 = 2.75 (kg)	M2 A1	May be seen in stages. Award M1 for any one of the following: • (Mass of rocks A + B =) 6.21 + 3.5 (= 9.71 kg) • (Mass of rocks A + C =) 12.46 – 3.5 (= 8.96 kg) • (Mass of rocks B + C =) 12.46 – 6.21 (= 6.25 kg) CAO
9.(a) 5x	B1	Mark final answer.
9.(b) 48y	B1	Mark final answer.
9.(c) 22	B2	Mark final answer. Award B2 for an unsupported 22 or not from incorrect working. Award B1 for one of the following: • sight of –10 (not –10t) • sight of 32 (not 32w) • 12 (with additional letters)
10.(a) 	B2	B1 for either: • 3 or 4 correct lines and no more than 1 incorrect line • 2 correct lines and no incorrect lines

10.(b) 	B2	B1 for either quadrant correct. Ignore clearly deleted shading.
11. Wales = 6 Rest of GB = 18 Rest of world = 8	B3	B2 for satisfying two of the conditions: • Rest of GB = 3 × Wales • Rest of World = Wales + 2 • Wales + Rest of GB + Rest of world = 32 B1 for satisfying one of the conditions. Answer space takes precedence. A condition must be met using non-negative integers, otherwise B0.
12.(a) 36 72 28 56 20 40 12 24 4 8	B2	B1 for at least 8 entries correct
12.(b) $\frac{11}{20}$ or equivalent.	B2	F.T. their table B1 for either: • a numerator of 11 in a fraction less than 1. • a denominator of 20 in a fraction less than 1 Penalise –1 for use of incorrect notation.
13. $13d - 5d = -31 - 9$ $8d = -40$ $d = -5$	B1 B1 B1	FT until 2nd error Mark final answer Allow an embedded answer If FT leads to a whole number answer, it must be shown as a whole number, otherwise accept a fraction
14. $\frac{21}{8} \times \frac{8}{3} - \frac{1}{8}$ $6\frac{7}{8}$	M2 A2	M1 for any one of the following: • $2\frac{5}{8} \div \frac{3}{8} = \frac{21}{8} \times \frac{8}{3}$ • $\frac{1}{2^3} = \frac{1}{8}$ A1 for any one of the following: • $\frac{21}{8} \times \frac{8}{3} = 7$ • final answer $\frac{55}{8}$ • 'their $\frac{21}{8} \times \frac{8}{3}$ ' $-\frac{1}{8}$ correctly evaluated and given as a mixed number
15. a = 42° b = 65° c = 115°	 B1 B1 B1	Answer spaces take precedence FT 180 °– 'their b' provided 'their b' ≠ 0°, 90° or 180°

16. Lowest common multiple of 2 × 5 × 7 × 8 or 560 seen or implied	M2	M1 for a method looking at factors or multiples, **e.g.** • sight of 2 × 7, 2 × 8 and 2 × 5 • sight of 2 × 7, 2^4 and 2 × 5 • sight of 2 × 7, 2 × 2 × 4 and 2 × 5 • (14,) 28, 42, 56 and (16,) 32, 48, 64 and (10,) 20, 30, 40 • a common multiple, not LCM, e.g. 1120
Table completed correctly, or sight of correct number of boxes in working, e.g. Knives 40 boxes Forks 35 boxes Spoons 56 boxes	A1	Answers in the table take precedence If no marks, award SC1 for an answer with whole numbers of knives, forks and spoons in correct the ratio, e.g. 80 ; 70 : 112
17. $x + x - 23 + x - 23 - 5 > 100$ or equivalent	M2	M1 for sight of any one of the following: • $x + x - 23 + x - 23 - 5$ • $x + x - 23$ (+ …….) > 100
$x > \frac{151}{3}$ or $x > 50\frac{1}{3}$ or $x > 50.3(\ldots)$	A2	Possible FT from M1 for A1 only A1 for any one of the following: • $3x - 51 > 100$ • $3x > 151$ • a simplified inequality for 'their $x + x - 23$ (+ …….) > 100'
(Youngest Rhodri could be) 51 (years-old)	B1	FT 'their $x > \frac{151}{3}$ ' provided it is not a whole number No marks for trial and improvement or an unsupported answer
18(a) Complete tree diagram  	B2	B1 for any one of the following: • 0.8 or equivalent on the boxes Saturday branch • 0.4 or equivalent on **both** the phone Sunday branches
18(b) 0.8×0.6	M1	FT $0.8 \times$ 'their lower branch 0.6' provided 0 < 'their lower branch 0.6 < 1
0.48 or equivalent	A1	Mark final answer

How to read the mark scheme

- ‘M' marks are awarded for any correct method applied to appropriate working, even though a numerical error may be involved. Once earned they cannot be lost.
- ‘m’ marks are dependant method marks. They are only given if the relevant previous ‘M’ mark has been earned.
- ‘A' marks are given for a numerically correct stage, for a correct result or for an answer lying within a specified range. They are only given if the relevant M/m mark has been earned either explicitly or by inference from the correct answer.
- 'B' marks are independent of method and are usually awarded for an accurate result or statement.
- ‘S’ marks are awarded for strategy
- ‘E’ marks are awarded for explanation
- ‘U’ marks are awarded for units
- ‘P’ marks are awarded for plotting points
- ‘C’ marks are awarded for drawing curves
- ‘OC’ marks are awarded for ‘organising and communicating’, a strand of OCW (organising, communicating and writing accurately)
- ‘W’ marks are awarded for ‘writing accurately’, a strand of OCW (organising, communicating and writing accurately)
- ‘SC’ marks are awards for special cases
- CAO: correct answer only
- ISW: ignore subsequent working
- FT: follow through

Assessment mapping

Q.	Topic	Max mark	AO1	AO2	AO3	Common Qn (HT)	Common marks (HT)	OCW
1	Writing numbers in words; rounding; factors; directed num	4	3	1				
2	2D shape properties	3	3					
3	Fractions problem	2		2				
4	Language of probability	3	2	1				
5	First quadrant coordinate problem	2	1	1				
6	Square; Square root; primes; BIDMAS; dividing by decimal	5	5					
7	Angles problem - two squares and an isosceles	6			6			*
8	Mass of rocks (decimals)	3	3					
9	Collecting like terms; multiplying; substitution	4	4					
10	Lines of symmetry; rotational symmetry	4	4					
11	Snooker players problem	3			3			
12	Listing outcomes from 2 way table; probability	4	4					
13	Solve linear equation with variable both sides	3	3			1	3	
14	Number machine with fractions and indices	4	4			2	4	
15	Parallel lines	3	3			3	3	
16	Wooden cutlery factor and LCM problem	3			3	6	3	
17	Family business age inequality	5		5		7	5	
18	Tree diagram cycle to and from work	4	4			10	4	
		65	**43**	**10**	**12**		**22**	