GCSE

WJEC GCSE Mathematics and Numeracy (Double Award)

Approved by Qualifications Wales

Sample Assessment Materials

Unit 1: Financial Mathematics and Other Applications of Numeracy
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.

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Surname	Centre number	Candidate number
First name(s)		0

GCSE

3320U1

Mathematics and Numeracy (Double Award)
Unit 1: Financial Mathematics and Other Applications of Numeracy
Foundation Tier

1 hour 30 minutes

SAMPLE ASSESSMENT MATERIALS

Additional materials

The use of a calculator will be required for 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 or use the π button on your calculator.

Information for candidates

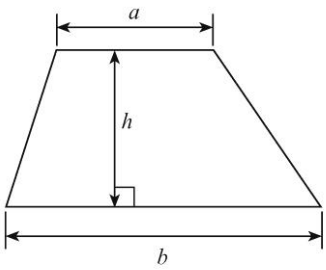
The number of marks is given in brackets at the end of each question or part-question.

In question 2(a), the assessment will take into account the quality of your organisation, communication and accuracy in writing.

For examiner's use only		
Question	**Maximum mark**	**Mark awarded**
1.	7	
2.	10	
3.	5	
4.	5	
5.	5	
6.	11	
7.	3	
8.	5	
9.	7	
10.	3	
11.	4	
Total	**65**	

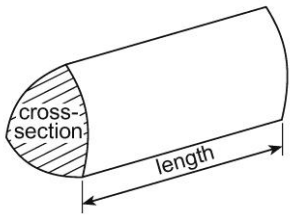
Formula List – Unit 1 Foundation Tier

Area of a trapezium = $\frac{1}{2}(a+b)h$



Volume of an Object with a Uniform Cross-section (e.g. Prism, Cylinder)

Volume = area of cross section × length



Answer **all** questions.

1. (a) Noor's bank statement shows the following details for last week. [4]

Examiner only

Date	Description	Credit (£)	Debit (£)	Balance (£)
25.09.2024	Starting balance			350.00
27.09.2024	Wages	……		1100.00
01.10.2024	Rent		575.00	……
03.10.2024	Sale of bike	295.00		……
04.10.2024	Council tax		……	705.65

Complete the four missing entries in her bank statement.

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Examiner only

(b) Noor has a 4-digit code for her online bank account.

She remembers the code as two pairs of two-digit numbers.

- All 4 digits of Noor's code are **different**.
- The first two-digit number is a square number between 40 and 50.
- The second two-digit number is an even number that is also a multiple of 3 between 20 and 35

[3]

What is Noor's 4-digit code?

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Noor's 4-digit code is:

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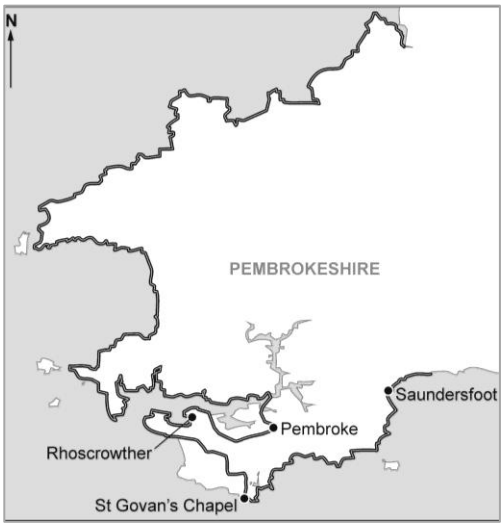
Examiner only

2. A group of friends walked part of the Pembrokeshire Coast Path to raise money for charity.

They completed 3 parts of the path over 3 days.



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

Here are the start and finish times for the three parts of the coast path that they walked.

Day	Parts of the Coast Path	Started walking	Finished walking
1	Saundersfoot to St Govan's Chapel	08:30	15:50
2	St Govan's Chapel to Rhoscrowther	11:15	16:50
3	Rhoscrowther to Pembroke	10:00	13:45

Find the total time the friends spent walking these parts of the coast path. Give your answer in hours and minutes.

You must show all your working. [5 + 2 OCW]

Examiner only

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(b) The distance that the friends walked each day was:

- 22 miles on day 1
- 17 miles on day 2
- 12 miles on day 3

What was the total distance that the friends walked in the 3 days?
Give your answer in **kilometres**. [3]

Use the conversion:
1 mile ≈1.6 km

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Examiner only

3. Ceri goes on holiday with his family to the North Wales coast.
They all stay at the Ocean Bay camping and caravan park.
The fees for a pitch for one night are shown below.

Ceri's sister Penny and her children have a caravan and stayed for 6 nights.

Ceri's parents have a motorhome and only stayed for 3 nights.

Ceri stayed in a tent.

The total fee for the 3 pitches was £434.
How many nights did Ceri stay for? [5]

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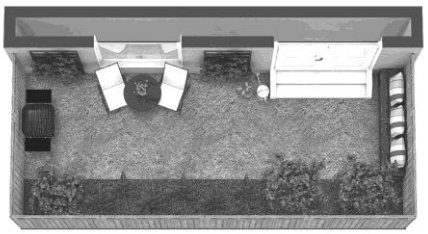
4. Mr Singh has a rectangular back garden.

He wants to place new fencing around 3 sides of his garden, as shown in the picture.



[5]

Examiner only

The diagram below shows the measurements of the sides of Mr Singh's garden that need fencing.

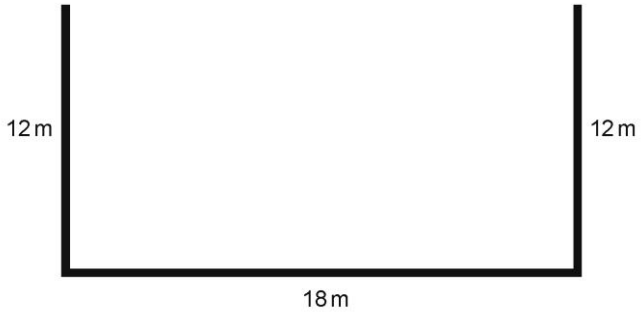


Diagram not drawn to scale

Fencing is bought in panels.
Each fence panel is 1.5 metres long and costs £36.99

Find the total cost of the fence panels needed for Mr Singh's garden.

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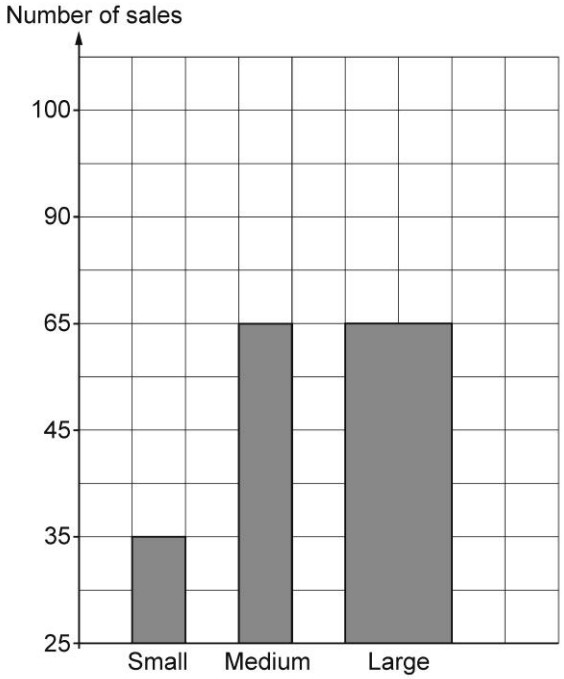
5. (a) Shampoo is sold in bottles of three different sizes: small, medium and large. [2]

Examiner only

The sales manager wrote a report on the sales of the different sizes of shampoo bottles.

The report included the bar chart below.



The sales manager made the following two statements:

'This graph shows that the number of medium bottles sold was more than double the number of small bottles sold, as the medium bar is more than double the height of the small bar.'

'It also looks like the number of large bottles sold was double the number of medium bottles sold.'

The sales manager's statements are incorrect.

Using the bar chart, give one explanation for each statement that has led the sales manager to make these incorrect statements.

1. ……

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2. ……

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(b) [3]

Examiner only

Small bottle
100 ml for £1.60

Medium bottle
250 ml for £3.50

Large bottle
400 ml for £5.80

Katie is buying shampoo.

Which size bottle of shampoo is the best value for money?
You must show all your working.

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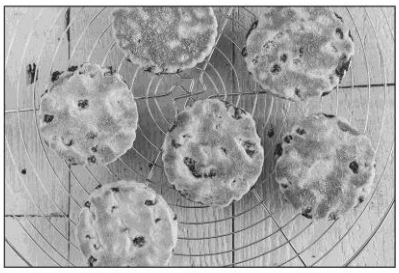
Examiner only

6. Powys Bakes is a bakery that makes Welsh cakes.
The bakery sells the Welsh cakes in gift boxes.

(a) Each Welsh cake is circular and has a diameter of 7 cm and a depth of 1.5 cm.



The gift box is in the shape of a cuboid with measurements 23 cm by 16 cm by 10 cm.

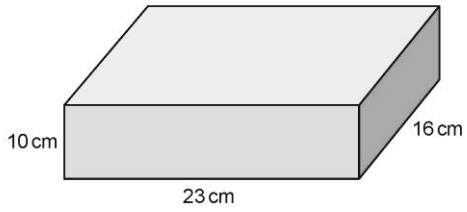


Diagram not drawn to scale

The Welsh cakes are placed in layers so that they **lie flat** in the gift box.

A horizontal sheet of card is placed between each layer of Welsh cakes.
Each sheet has a depth of 0.5 cm.

(i) What is the maximum number of Welsh cakes that can fit into the gift box? [5]

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(ii) What is the volume of the gift box? [3]
State the units of your answer.

Examiner only

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(b) The bakery provides a delivery service. [3]

Delivery charges
For delivering a box of Welsh cakes: Cost in **pence** = 15 × number of miles + 50

Jacob's grandmother lives 40 miles away from the bakery.

How much would it cost Jacob to have a box of Welsh cakes delivered to his grandmother?
Give your answer in pounds (£).

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Examiner only

7. The Physical Education (PE) department in Ysgol Ddwysaint wants to test the following hypothesis:

'Most pupils in Year 11 spend less than $2^1/_2$ hours per week doing exercise.'

(a) Part of the questionnaire they will give to pupils in Year 11 asks the following question: [2]

How many hours do you spend exercising?			
0 to 1	2 to 3	4 to 5	6 to 7
☐	☐	☐	☐

Give two reasons why the question is not suitable.

Reason 1: ……

……

Reason 2: ……

……

(b) The PE department plans to give out the questionnaire to Year 11 pupils studying GCSE Physical Education and Health. [1]

Give **one** criticism of this plan.

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8. Mr Bevan used 660 kWh of electricity during September, October and November last year. [5]

Examiner only

For the same 3-month period this year, he assumes his usage of electricity will not change.

Mr Bevan has the following information about electricity charges this year.

- The standing charge is £15 **per month**
- Electricity costs 29p per kWh
- VAT at 5% is payable on the total of the standing charge and the cost of the electricity used.

Calculate how much Mr Bevan's electricity bill will be for the 3-month period of September to November this year.

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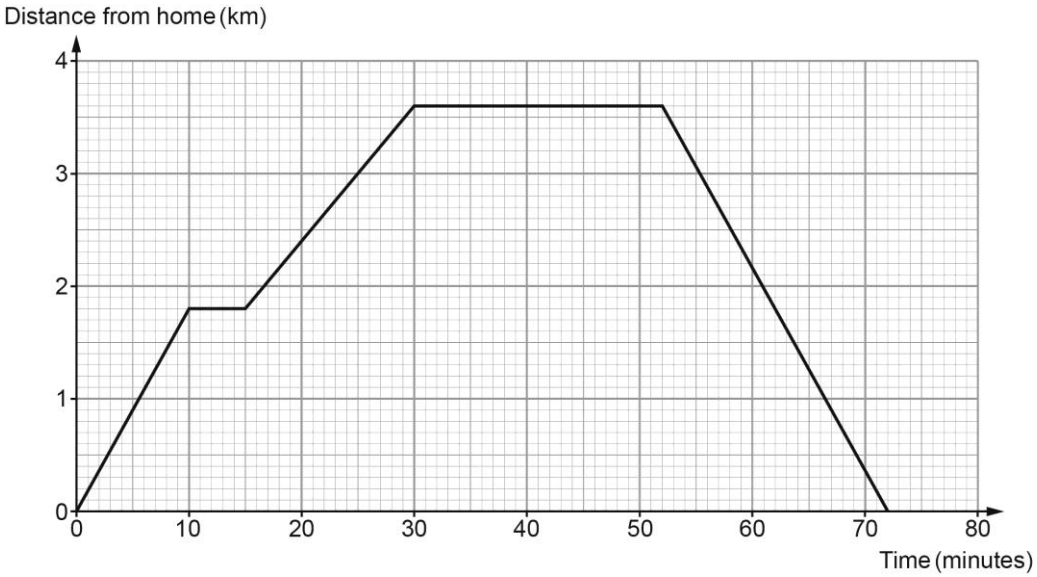
Examiner only

9. Nerys travelled by bike along a straight road to visit her friend.
The travel graph below shows Nerys's journey.
On the way to her friend's house, she stopped at a shop.
She stayed at her friend's house for some time. Then, she travelled home.



(a) How far had Nerys travelled in total after an hour? [2]

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(b) Nerys started her journey at 10:00. [2]
At what time did she return home?

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(c) Nerys's bike has a computer that displays data about her journey. [3]
When the bike is moving, it measures distance travelled and time taken.

Examiner only

What average speed did the computer show at the end of Nerys's journey?
Give your answer in kilometres per hour.

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Examiner only

10. Sian and Kim are saving to buy an electric guitar that they will share.
The guitar they want to buy costs £385.

Sian and Kim will pay for the guitar in the ratio 5 : 6 respectively.
They will each save over the next 4 weeks.
Sian will put an equal amount of money aside per week.
Kim will also put an equal amount of money aside per week.

Calculate how much money Sian and Kim will need to save per week to pay for the guitar. [3]

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Sian will save £ …… per week

Kim will save £ …… per week

Examiner only

11. Isabelle has created a flowerbed in the shape of a trapezoidal prism. The plan view of the flowerbed is shown in the diagram below.

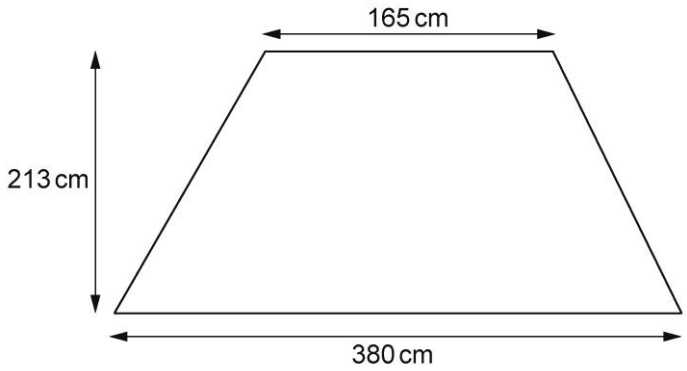

Diagram not drawn to scale

Isabelle is going to buy enough compost to fill the flowerbed to a uniform depth of 30 cm.

Calculate the volume of compost Isabelle will need. [4]
Give your answer in **litres**.

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END OF QUESTIONS

Examiner only

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

Mark Scheme

GCSE Mathematics and Numeracy Unit 1: Foundation Tier SAMs	Mark	Comments
1(a) (Wages) (£)750	B1	
(Balance after rent) (£)525	B1	
(Balance after sale of bike) (£)820	B1	FT 'their 525' + 295 correctly evaluated
(Council tax) (£)114.35	B1	FT 'their 820' – 705.65 correctly evaluated
1(b) 49 30	B3	Answer box takes precedence If B3 not awarded: Award B1 for 49 selected Award B2 for 30 selected or award B1 for 24 selected Penalise -1 if the 2 two-digit numbers are correct but in the wrong order.
2(a) (Saundersfoot to St Govan's Chapel=) 7 (hours) 20 (mins) or 440 (minutes)	B1	**Allow incorrect notation but penalise in OCW** Allow 7:2(0) or 7.2(0)
(St Govan's Chapel to Rhoscrowther=) 5 (hours) 35 (mins) or 275 (minutes)	B1	Allow 5:35 or 5.35
(Rhoscrowther to Pembroke=) 3 (hours) 45 (mins) or 3 ¾ (hours) or 225 (minutes)	B1	Accept 3.45 Allow 3:45 or 3.45
(Total time =) 7 (hours) 20 (mins) +5 (hours) 35 (mins) +3 (hours) 45 (mins) or equivalent	M1	Award M1 for adding 'their 3 times' even if there is a mix of units and/or notation. FT 'their 7 (hours) 20 (mins)' + 'their 5 (hours) 35 (mins)' + 'their 3 (hours) 45 (mins)' or equivalent
(Total time =) 16 (hours) 40 (mins)	A1	FT 'their total time' correctly evaluated and converted into hours and minutes Award A0 for 16:4(0) or 16.4(0) Award A0 for an answer of 15 (hours) 100 (mins)
Organisation and communication	OC1	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 way that is clear and logical • write a conclusion that draws together their results and explains what their answer means
Writing	W1	For W1, candidates will be expected to: • show all their working • use correct mathematical form in their working • use appropriate terminology, units, etc.

2(b) (22 + 17 + 12) × 1.6 81.6 (km)	M2 A1	Award M1 for any one of the following • 22 + 17 + 12 • 51 (miles)
2(b) Alternative method *(22 × 1.6) + (17 × 1.6) + (12 × 1.6)* *Or (35.2 + 27.2 + 19.2)* *81.6 (km)*	*M2* *A1*	*Award M1 for any one of the following* • *The **sum** of any 2 of the 3 products* • *22 × 1.6 (= 35.2), 17 × 1.6 (= 27.2) and 12 × 1.6 (= 19.2) shown without being added*
3. 6 × 31 + 3 × 36 (186 + 108) (£)294 (434 – 294 =) (£)140 140 ÷ 28 5 (nights)	M1 A1 B1 M1 A1	 FT 434 – 'their 294' provided M1 awarded FT 'their derived 140' ÷ 28
4. (Length of fencing needed=) 12 + 18 + 12 42 (m) (Number of panels 42 ÷ 1.5 =) 28 (Cost=) 28 × (£)36.99 (£)1035.72	M1 A1 B1 M1 A1	 FT 'their length of fencing' FT 'their number of panels'
<u>4. Alternative method</u> *(Number of panels on one side=)* *(18 ÷ 1.5 =) 12 OR (12 ÷ 1.5 =) 8* *(Total number of panels=) 8 + 12 + 8* *28* *(Cost=) 28 × (£)36.99* *(£)1035.72*	 *B1* *M1* *A1* *M1* *A1*	 *FT 'their 12' and 'their 8' provided B1 previously awarded* *CAO* *FT 'their number of panels'*

<table>
<tr>
<td>5(a) Reason for statement 1 given based on vertical scale e.g.
‘Consistent scale not used’
‘Vertical scale not starting from zero’
‘The scale should go from 0, then 10, then 20.’
‘The scale has missed out 0’

Reason for statement 2 given based on width of bars e.g.
‘the bar for the large shampoo is double the width for the medium shampoo but the heights are the same’
‘Not all bars the same width’
‘Large wider than the others’</td>
<td>E1

E1</td>
<td>Statements could be in either order.</td>
</tr>
<tr>
<td>5(b) Method of comparison,
e.g. per 10 ml or for 2000 ml, or divide the cost of 100 ml by 10 and multiply by 25 or 40, or similar

Correctly evaluated comparison of 2 of the 3 sizes

Correctly evaluated comparison of all 3 sizes, may be different comparisons at different stages, AND conclusion ‘Medium’ or ’250 ml’ bottle is the best value for money</td>
<td>M1

A1

A1</td>
<td>Needs to show attempt to compare at least 2 of the 3 sizes

Ignore incorrect units

<table>
<tr><td></td><td>100 ml</td><td>250 ml</td><td>400ml</td></tr>
<tr><td>S</td><td>(£1.60)</td><td>£4</td><td>£6.40</td></tr>
<tr><td>M</td><td>£1.40</td><td>(£3.50)</td><td>£5.60</td></tr>
<tr><td>L</td><td>£1.45</td><td>£3.625</td><td>(£5.80)</td></tr>
</table>

<table>
<tr><td></td><td>1 ml</td><td>10 ml</td><td>50 ml</td><td>100ml</td><td>2000 ml</td><td>Per £1</td></tr>
<tr><td>S</td><td>1.6p</td><td>16p</td><td>80p</td><td>£1.60</td><td>£32</td><td>62.5 ml</td></tr>
<tr><td>M</td><td>1.4p</td><td>14p</td><td>70p</td><td>£1.40</td><td>£28</td><td>71.4(..) ml</td></tr>
<tr><td>L</td><td>1.45p</td><td>14.5p</td><td>72.5p</td><td>£1.45</td><td>£29</td><td>68.9(...) or 69 ml</td></tr>
</table>

With a 1 ml comparison, allow rounding to 1.5p for large but not for truncation to 1.4p, provided no incorrect working is seen, for the award of the first A1. Award of final A1 also possible if a full comparison and conclusion is ‘Medium’

Consistent units that are not obviously incorrect are required, or allow no units given

Comparison of small / medium and medium / large IS a full comparison of all 3 sizes

Comparison of medium / large and small / large IS a full comparison of all 3 sizes

Comparison of small / medium and small / large IS NOT a full comparison of all 3 sizes</td>
</tr>
<tr>
<td>6(a)(i)
23 ÷ 7 OR 16 ÷ 7
3(.2857…) AND 2(.2857…)

(Number of layers =) 5

(Number of welsh cakes 3 × 2 × 5=) 30</td>
<td>
M1
A2

B1

B1</td>
<td>Answers may be seen on diagram

Award A1 for either 3(.2857…) or 2(.2857…)

FT ‘their 3’ × ‘their 2’ × ‘their number of layers’ correctly evaluated</td>
</tr>
</table>

6(a)(ii) $10 \times 23 \times 16$ 3680 cm^3 or ml	M1 A1 U1	Independent of previous marks. Mark final answer Award M1 A1 U1 for an answer of 3.68 litres
6(b) $15 \times 40 + 50$ (£)6.5(0)	M1 A2	Allow £6.50p or 6.5(0) Award A1 for any of the following: • 6.50p • 650(p) • £6.5p
7(a) Any 2 of the following statements e.g. 'No time frame e.g. per day, per week etc', 'Groups are not continuous e.g. no group for 1.5 hours', 'No group if you exercise for more than 7 hours'	E2	Ignore additional spurious comments E1 for 1 correct statement
7(b) A criticism regarding e.g. '(Not representative of Year 11 as a whole as) most GCSE PE pupils will do more than 2.5 hours of exercise each week', or '(Not representative of Year 11 as a whole as) not many of these pupils will do less than 2.5 hours of exercise each week', or 'Most GCSE PE pupils are likely to do more exercise than Yr 11 pupils in general'	E1	Ignore additional spurious comments Accept e.g. 'Not a representative sample of Year 11', or 'Wouldn't represent Year 11 as a whole'
8. (Electricity cost is) 660×0.29 or 660×29 = (£) 191.4(0) or 19140 (p) (Standing charge + electricity is) (£) 236.4(0) or 23640 (p) (Total bill including VAT is) $1.05 \times 236.4(0)$ or 1.05×23640 = (£) 248.22 or 24822 (p)	M1 A1 B1 M1 A1	If units are given, they must be correct FT 45 + 'their 191.4(0)' or 4500 + 'their 19140' FT 'their (£) 236.4(0)' or 'their 23640 (p)' including if standing charge omitted Only FT if 5% has been added correctly to 'their (£) 236.4(0)' or 'their 23640 (p)'
9(a) 5 (km)	B2	B1 for any one of the following: • 3.6 + (3.6 – 2.2) allowing for 1 slip, possibly repeated, in reading the scale • 3.6 + 1.4 allowing for a slip in the reading of 3.6
9(b) 11:12	B2	Accept 11:12 a.m. B1 for sight of 1 hour 12 minutes (or 1:12)
9(c) (Average speed =) $3.6 \times 2 \div \frac{(10 + 15 + 20)}{60}$ or $\frac{7.2}{0.75}$ or equivalent	M2	Allow M1 for any one of the following: • use of 7.2 ÷ 'their time', including use of 45 • use of …… ÷ (10 + 15 + 20) • use of …… ÷ 45 • use of 0.75

= 9.6 (km/h)	A1	FT from M1 for any one of the following: • 7.2 ÷ 'their time', including use of 45, correctly evaluated • 'their distance' ÷ 0.75 correctly evaluated
10. $\frac{385}{5+6} \times 5$ (÷4) or $\frac{385}{5+6} \times 6$ (÷4) (Sian will save) (£) 43.75 AND (Kim will save) (£) 52.5(0)	M1 A2	 Answer space takes precedence A1 for any one of the following: • Correct answers but in the wrong order • (Sian will save) (£) 43.75 • Kim will save (£) 52.5(0) • (Sian) (£) 175 AND (Kim) (£) 210
11. (Volume of flowerbed =) $\frac{1}{2} \times (380 + 165) \times 213$ × 30 = 1 741(.275) (litres)	 M1 m1 A2	 A1 for 1 741 275 (cm^3)

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	Noor's statement and online banking	7	7					
2	Wales coastal path walk - time and distance	10	3	7				*
3	Ceri's family camping holiday	5			5			
4	Perimeter fencing costs	5		5				
5	Best buy shampoo	5		5				
6	Welsh cakes - dimensions, volume and delivery charges	11	6		5			
7	PE Questionnaire	3	3			2	3	
8	Mr Bevan's electricity bill	5		5		3	5	
9	Nerys' travel graph	7		4	3	4	7	
10	Saving to buy a guitar - ratio	3		3		5	3	
11	Flowerbed - vol trap prism	4	4			8a	4	
	Totals	**65**	**23**	**29**	**13**		**22**	