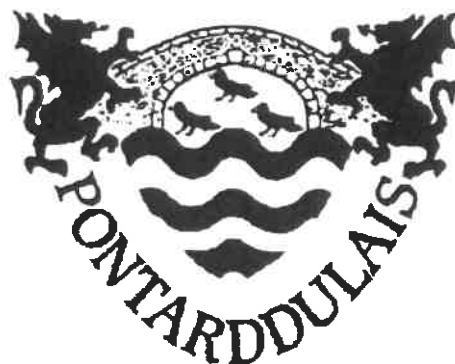


**GCSE NUMERACY
FOUNDATION
REVISION
BOOKLET |**

NOVEMBER 2018

Name:

Teacher:

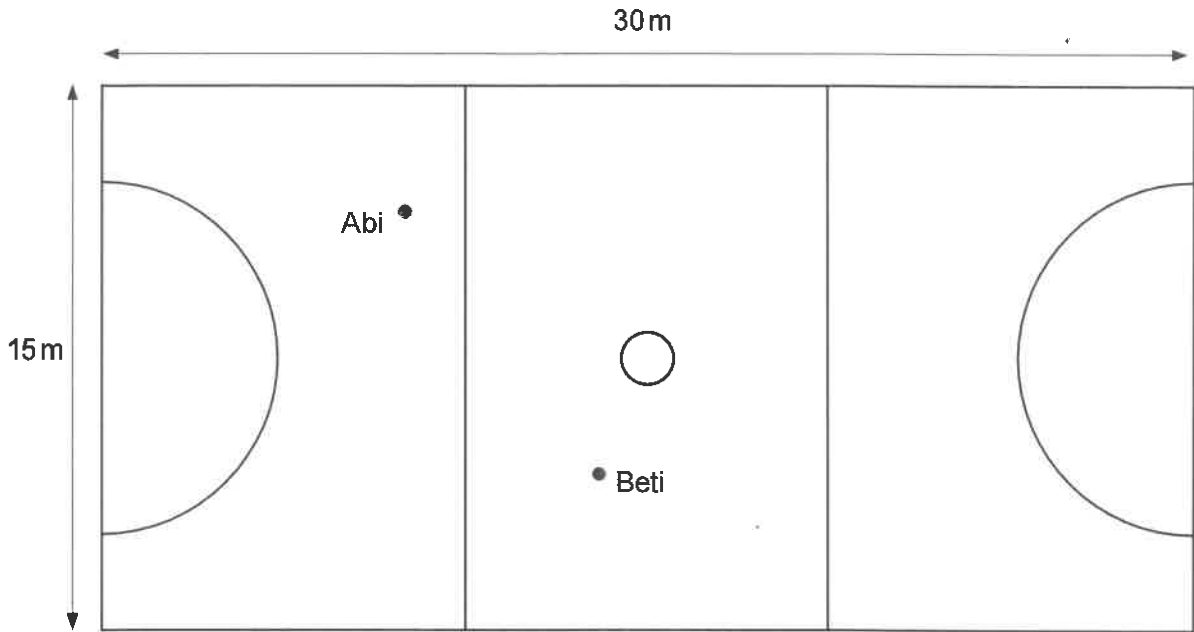


Measurement

F Num 41 Nov 2016 10

Examiner only

4. The diagram shows a scale drawing of a netball court.



(a) All of the **straight** lines on the netball court are to be painted white.
What is the total length of the white lines that need to be painted?

[2]

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(b) The scale used in the diagram is **1 cm represents 2 m**.

Abi passes the ball to Beti.

Use the scale to work out the distance between Abi and Beti in metres.

[2]

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- (c) Abi, Beti, Cala and Delaney played a practice game.
Abi scored 9 goals.
Beti scored 6 goals.
Cala scored 5 goals.

The mean number of goals scored by all four players was 7.
How many goals did Delaney score?

[4]

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- (d) The practice game started at 3:55 p.m.
Cala scored her first goal after 12 minutes.
At what time did Cala score her first goal?
Circle your answer.

[1]

3:43 p.m. 15:67 04:07 3:07 p.m. 16:07

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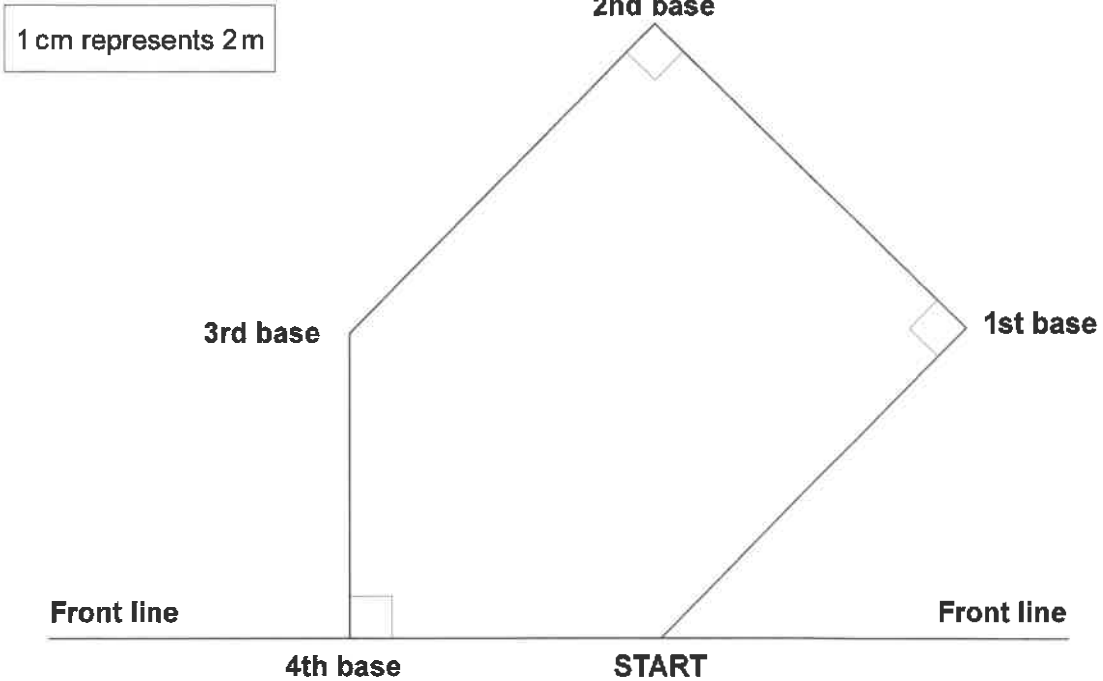
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Examiner only

4. The diagram below shows a scale drawing of the pitch used in a game of rounders. The scale of the drawing is 1 cm represents 2 m.



- (a) Use the scale drawing above. Measure and write down the length of the line from the START to 1st base. [1]

- (b) Calculate the actual distance from the START to 1st base, in metres. [1]

Distance is m

- (c) The caretaker of a sports ground uses the scale drawing to plan how to mark out the lines of a rounders pitch. The START and the first three bases are the four corners of a square. The caretaker marks the lines from the START to 1st base, then to 2nd base, then to 3rd base and finally to 4th base.

What is the total actual length of the lines he marks? [3]



07

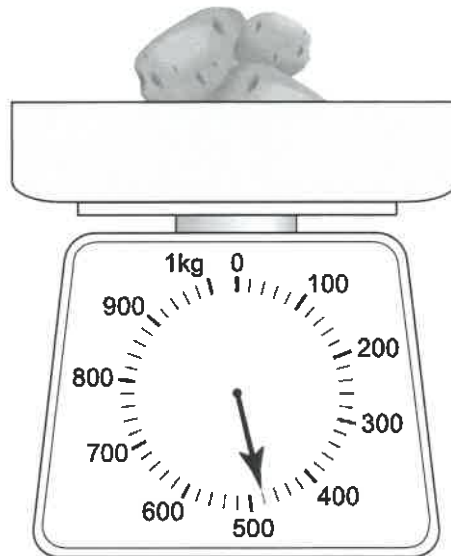
5.



Huw is going to make vegetable soup for 6 people.

A recipe for 2 people uses 10 ounces of potatoes.

He has placed some potatoes on his weighing scales as shown below.



The weighing scales display the mass in grams.

Huw knows that 1 ounce is approximately 28 grams.

How many more grams of potatoes does Huw need to make vegetable soup for 6 people? [5]

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Extra mass of potatoes needed is grams



F Num ul June 2018 ¹¹

Examiner
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- (b) The diagram shows a sketch of the top part of a 1-litre carton. There is a circular hole cut out for the plastic lid.

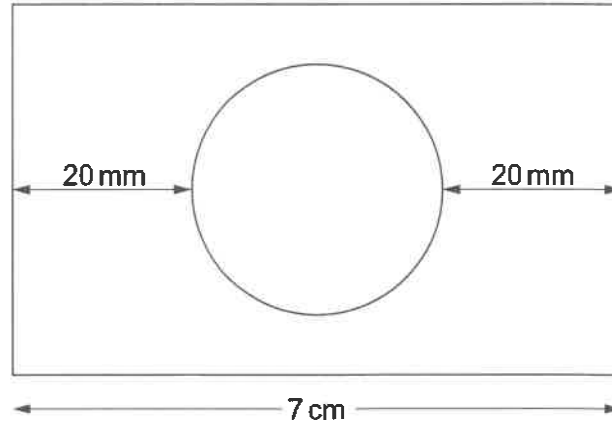


Diagram not drawn to scale

What is the radius of the circular hole?
Give your answer in **mm**.

[3]

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11

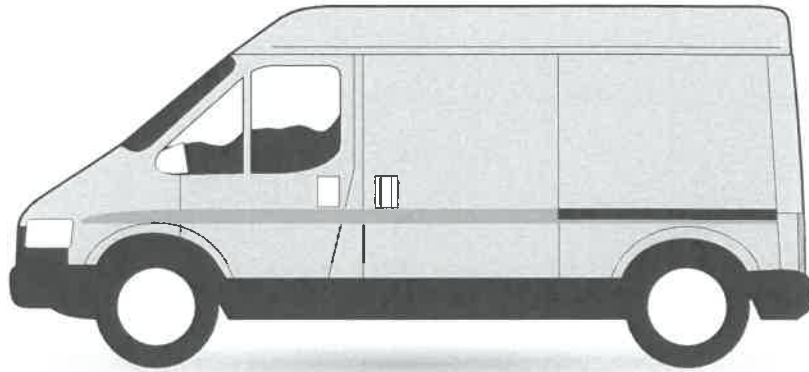


(b) The plumber uses a van for work.

The diagram below is a **scale drawing** of his van.
The scale of the drawing is 1 cm represents 50 cm.

Find the actual length of the van in metres.

[3]



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F Num 42 June 2017¹⁷

Examiner
only

8. Glenda plans to drive from Flint to Cardiff.

On a long journey, her average speed is usually 42 mph.

Last time she drove from Flint to Cardiff it took her $3\frac{1}{2}$ hours.

(a) Use this information to calculate the distance between Flint and Cardiff. [2]

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..... miles

(b) Give a possible reason why your answer in (a) is only an estimate of the distance between Flint and Cardiff. [1]

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9. The tables below show all of the international football results for Wales in 1984 and 1985.

1984

28 Feb 1984	Scotland		2 – 1		Wales
2 May 1984	Wales		1 – 0		England
22 May 1984	Wales		1 – 1		Northern Ireland
6 Jun 1984	Norway		1 – 0		Wales
10 Jun 1984	Israel		0 – 0		Wales
12 Sep 1984	Iceland		1 – 0		Wales
17 Oct 1984	Spain		3 – 0		Wales
14 Nov 1984	Wales		2 – 1		Iceland

1985

26 Feb 1985	Wales		1 – 1		Norway
27 Mar 1985	Scotland		0 – 1		Wales
30 Apr 1985	Wales		3 – 0		Spain
5 Jun 1985	Norway		4 – 2		Wales
10 Sep 1985	Wales		1 – 1		Scotland
16 Oct 1985	Wales		0 – 3		Hungary

Geraint says,
 'On **average**, the Wales international football team scored more goals per match in 1985 than in 1984.'

- (a) In checking the truth of Geraint's statement, why would it **not** be helpful to consider the **range** of the number of goals scored per match in each year? [1]

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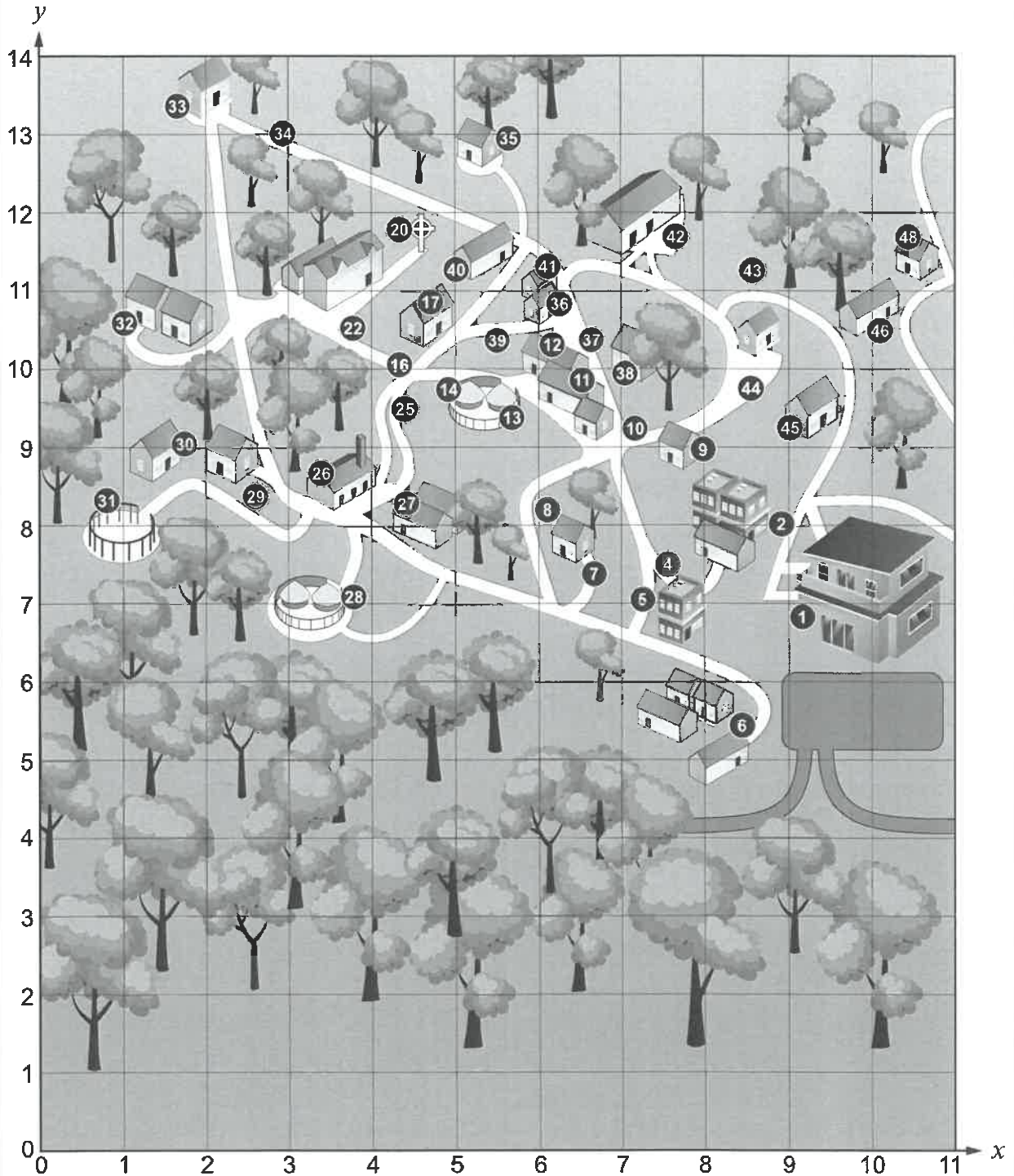


Coordinates

F Num 41 Nov 2017⁴

Examiner
only

1. Look at the coordinate grid below. It is a map of St Fagans National Museum of History. Mr Jones visited St Fagans. He used the grid to find the places that he wanted to see.



04

F Num 11 Nov 2017

Examiner only

(a) What are the coordinates of the Timber Circle? This is shown as number 31 on the grid. [1]

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(b) Mr Jones stopped at (6, 7) during his visit. Mark this position on the grid with a cross (X). [1]

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(c) Mr Jones and Bethan were standing outside the Sawmill (number 26). They were both facing the Tannery (number 27). Bethan asked Mr Jones for the directions to the Newbridge War Memorial (number 20). Complete the set of directions for the shortest route that Mr Jones could have given Bethan. [2]

Turn left from the Saw Mill.

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12

F Num ul Nov 2016⁴

Examiner
only

1. A gardener is designing a new garden.
He uses a coordinate grid to show the position of plants and trees.
He has started to create a plan for one of his customers.
The table below shows some of the items that are to be put into the garden.

		
Wooden table & chairs	Fountain	Flowering shrub
		
Large tree	Winter tree	Flowering tree



04

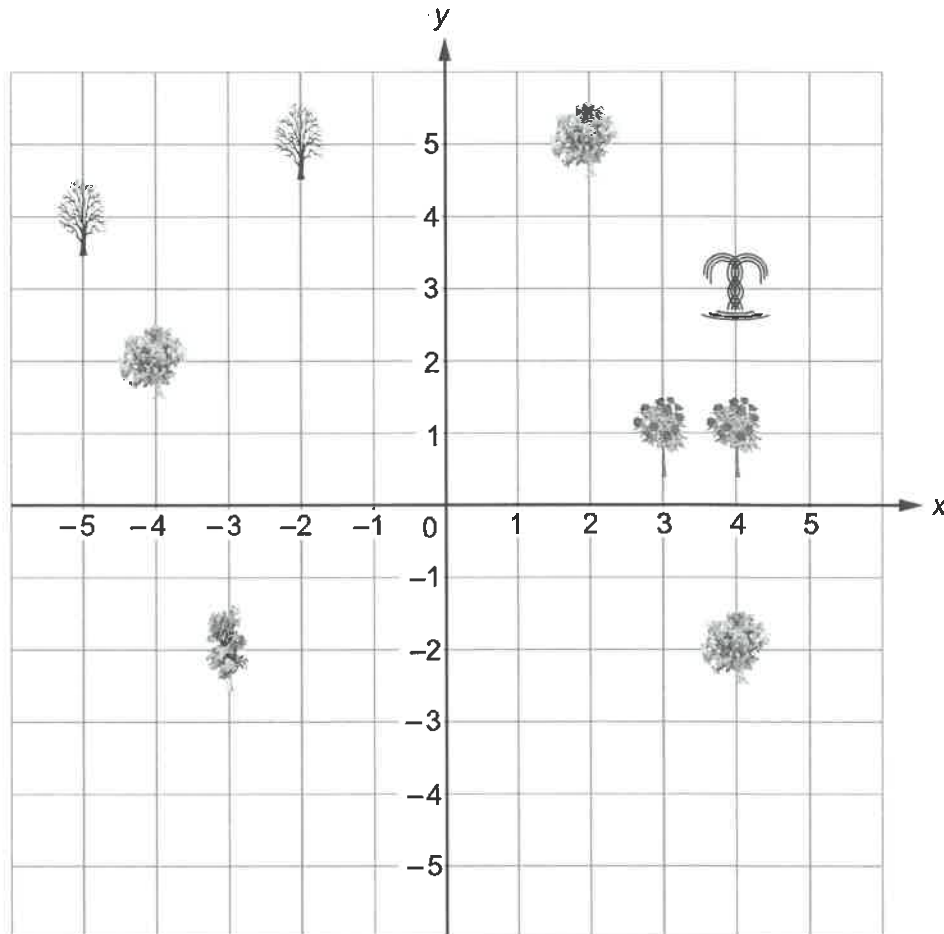
F Num w1 Nov 2015

Examiner only

- (a) What are the coordinates of the fountain?
Circle your answer.

[1]

(4, 3) (3, 3) (3, -3) (3, 4) (4, -3)



- (b) The gardener is going to place
- the wooden table and chairs at A (-1, 2)
 - a flowering shrub at B (1, 0).

Plot the **positions** of points A and B on the grid above.

[2]

- (c) The lawn in the garden is rectangular.
It has length 4.5 metres and width 3 metres.

- (i) What units should be used for the area of the lawn?
Circle your answer.

[1]

m cm m² m³ yards

- (ii) What is the area of the lawn?

[2]

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05

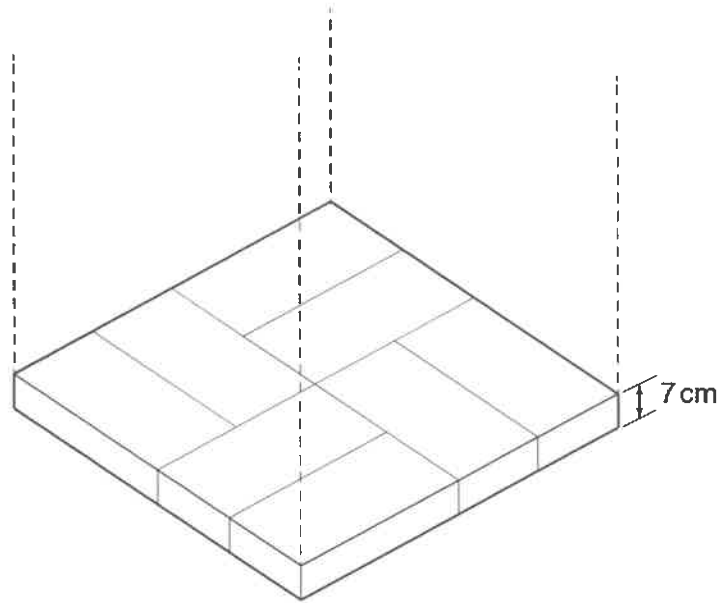
14

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Examiner
only

- (d) The gardener has a stack of bricks to build a barbeque.
The stack is 154 cm tall.

Each layer of bricks has the pattern shown below.



The thickness of one layer of bricks is 7 cm.
How many bricks are there in the stack altogether?

[4]

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15

Time, Timetables and Travel Graphs

F Num 42 Nov 2017 4

Examiner only

(b) Evan and his family will fly from Cardiff Airport to Larnaca International Airport in Cyprus.





Sun 5 Aug 2018

Leave Cardiff 15:00 (UK time)

Arrive Larnaca 22:00 (Cyprus time)

Cyprus time is 2 hours ahead of UK time.

How long will this flight take?

[2]

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..... hours



3. A conversion chart for oven temperatures is shown below.



Oven type	Electric oven			Gas oven
	Fan oven	Conventional oven		
Scale	Celsius	Celsius	Fahrenheit	Gas mark
Temperature	120°	140°	275°	1
	130°	150°	300°	2
	140°	160°	325°	3
	160°	180°	350°	4
	170°	190°	375°	5
	180°	200°	400°	6
	200°	220°	425°	7
	210°	230°	450°	8

(a) Dewi is making a cake using a gas oven.
The recipe states:

'Preheat the oven to a temperature of 350° Fahrenheit'.

Use the conversion chart to find the gas mark Dewi should use.

[1]

Gas mark

(b) Ffion is cooking a cake using an electric oven.
Her recipe states:

'Preheat the oven to gas mark 3'.

Ffion uses the conversion chart and correctly sets her oven to 140°.
What type of electric oven does Ffion have?

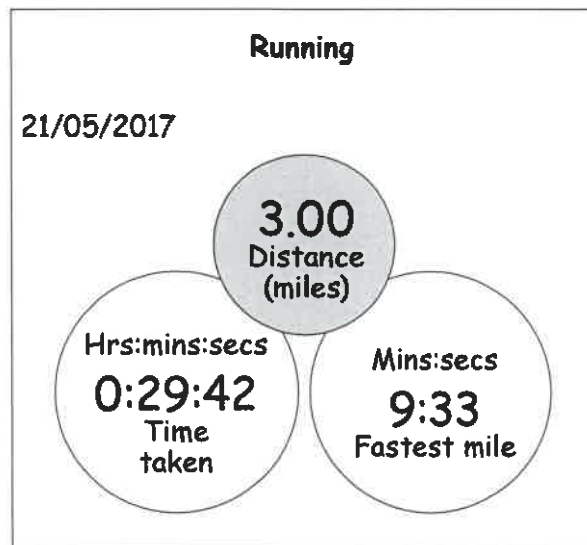
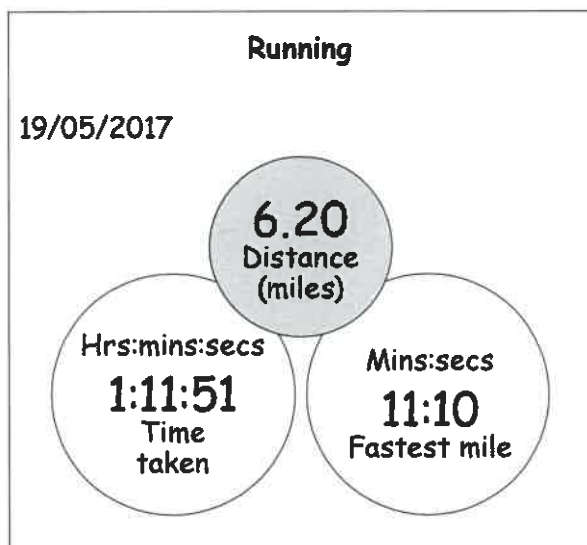
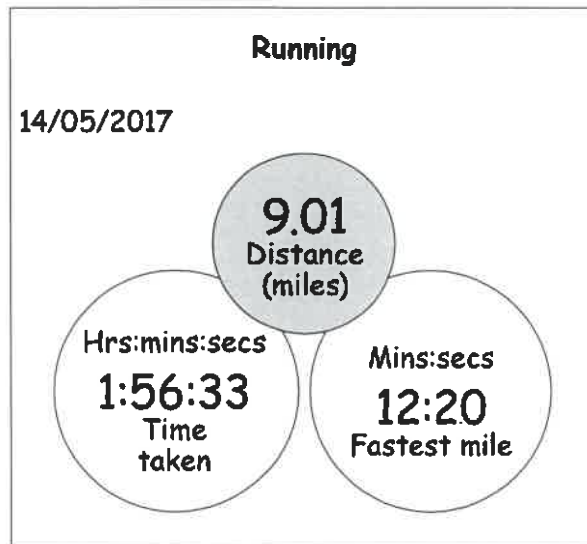
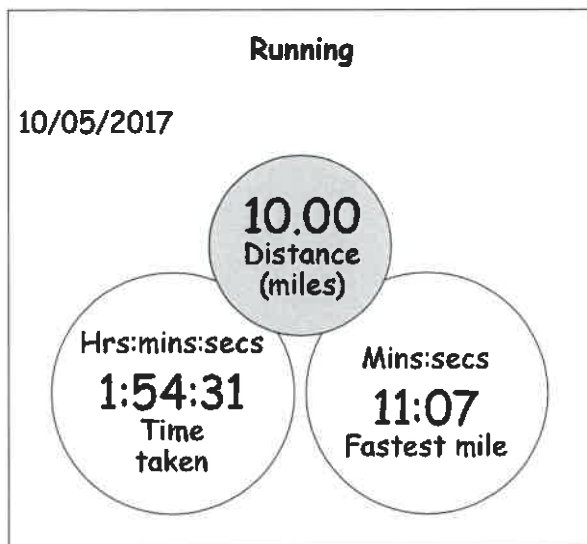
[1]

(c) Dewi's cake needs 25 minutes to cook.
Ffion's cake needs one and a half hours to cook.
How many minutes longer does Ffion's cake take to cook than Dewi's cake?

[1]



3. Jo is a keen runner. She tracks each of her runs using an app on her phone. Information about her last four runs is shown below.



(a) In Jo's last four runs,

- (i) what was the shortest distance that she ran? [1]

.....

- (ii) what was the longest time that she ran for? [1]

.....



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Examiner only

(b) Circle either TRUE or FALSE for each of the following statements about Jo's last 4 runs. [2]

Jo always ran for more than half an hour	TRUE	FALSE
Jo ran a total of more than 25 miles	TRUE	FALSE
Jo's fastest mile run was under 10 minutes	TRUE	FALSE
Jo's furthest run took the longest time	TRUE	FALSE

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(c) On the 10th May 2017, Jo set a target time of 1 hour 45 minutes to complete her run. By how many minutes and seconds did Jo miss her target? [1]

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F Num 12 June 2017¹³

Examiner
only

4.

Bus timetable from Orme Station to Outlet Village

Only 55 minutes from Orme Station direct to Outlet Village.

Buses leave the station

- every 12 minutes from 8 a.m. until 12 noon
- every 24 minutes from 12 noon until 10 p.m.

- (a) At what time does the first bus after 09:00 leave Orme Station?
Circle your answer.

[1]

09:05 09:12 09:18 09:24 09:30

- (b) Gwil looks at the timetable shown above.
He decides to take the latest possible bus to be at Outlet Village by 15:00.

At what time will Gwil arrive at Outlet Village?
You must show all your working.

[2]

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13



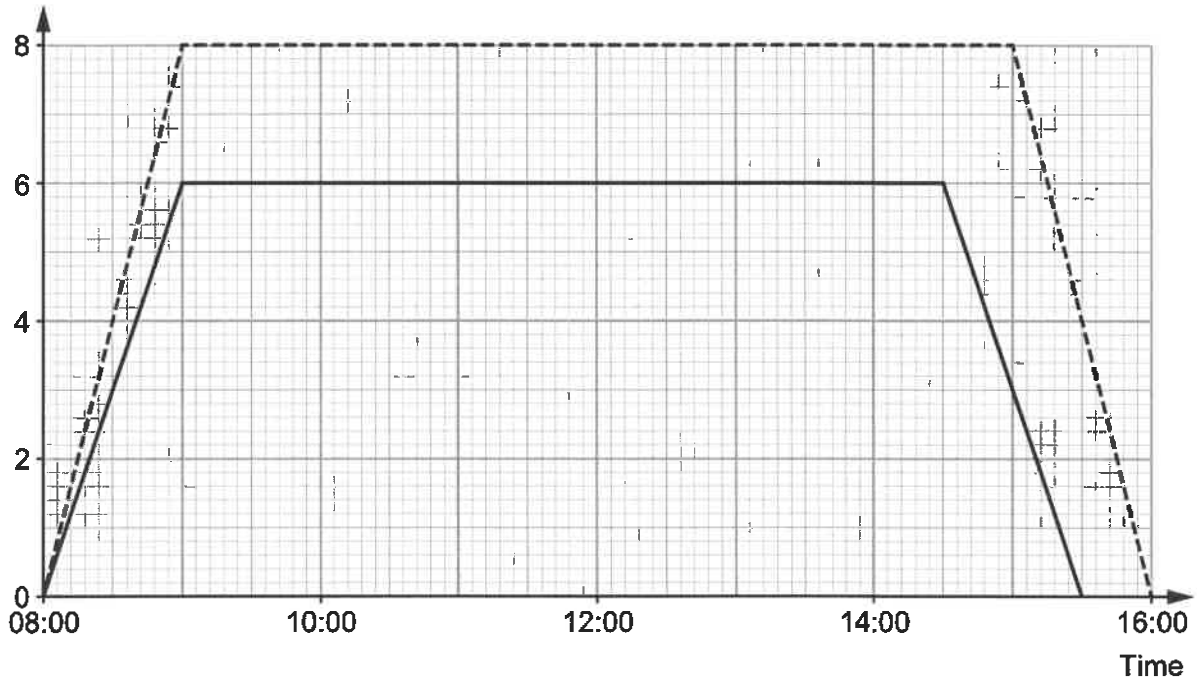
7. Eleri and Yvon are sisters.
 They both live at *Cwm Uchel*.
 They do not go to the same school.
 The graph represents each of their journeys to school and back.

Key:

----- represents Eleri's journeys

————— represents Yvon's journeys

Distance from home (km)



- (a) At what time did Yvon arrive home from school?
 Circle your answer.

[1]

14:45

15:15

15:30

15:45

16:00



(b) Eleri cycles along a straight road to school and back.
How far does she cycle when going to school and back in one day?
Circle your answer.

[1]

- 6 km 8 km 9 km 12 km 16 km
-

(c) Martha looks at the graph and says,

'The school Eleri attends is 2 km from Yvon's school.'

Is this true?

Certainly true Certainly false Can't tell

Give a reason for your answer.

[1]



10. (a) The towns of Aberglen, Bargwyn, Caerlow and Derwen are on Bus Route 3. The times buses take to travel between each of the towns are shown on the diagram below.

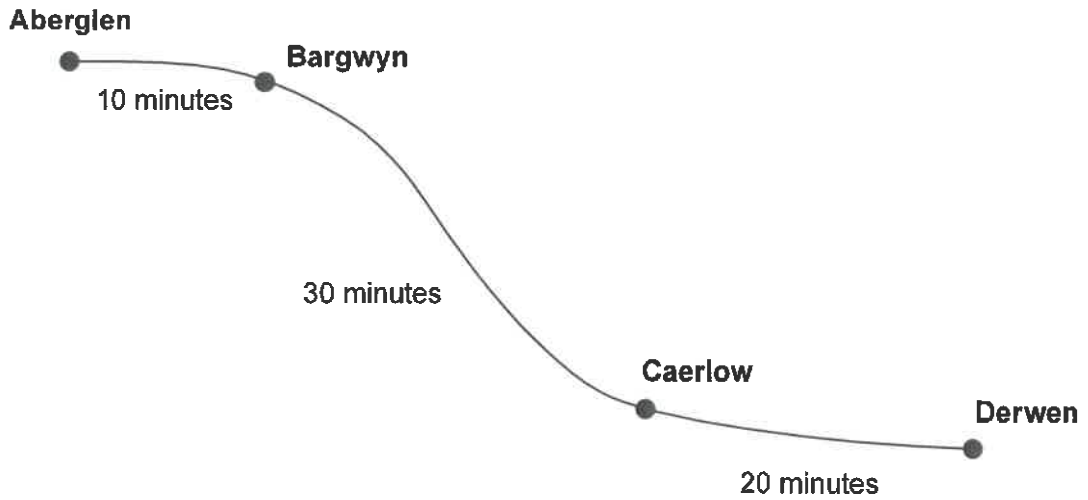


Diagram not drawn to scale

Buses start at Aberglen.
All these buses travel to Derwen, stopping at Bargwyn and Caerlow.

Here is the bus timetable.

Departing from:	Times
Aberglen	First bus leaves at 09:00, then every 13 minutes after this time.

At what time does the 09:13 bus from Aberglen arrive at Derwen?
Circle your answer.

[1]

09:23 09:33 09:43 10:53 10:13



- (b) From Grainsey, the Number 6 bus runs to Wyndre and the Number 7 bus runs to Hafgoch.

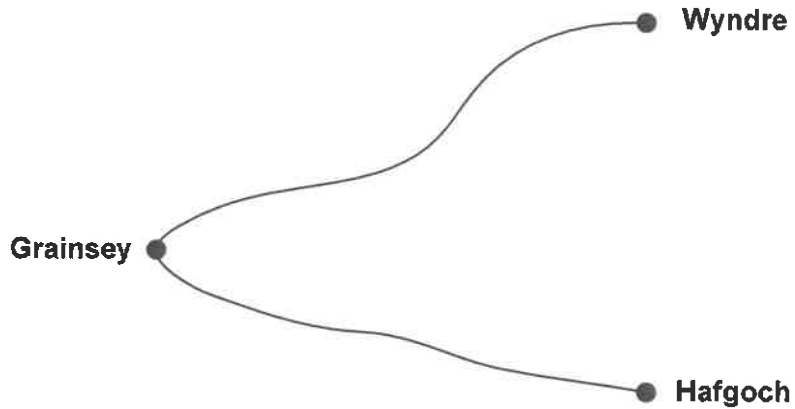


Diagram not drawn to scale

The timetable for these buses is given below:

Bus Number	To	Times
6	Wyndre	First bus leaves at 10:00, then every 20 minutes after this time.
7	Hafgoch	First bus leaves at 10:00, then every 45 minutes after this time.

After 10:00, when will the Number 6 bus and the Number 7 bus next leave Grainsey at the same time? [4]

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f Num ul June 2018⁴






Examiner
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1. The following information was taken from the internet in 2017.

Highest temperatures recorded in the UK:

 United Kingdom			
 England	38.5°C (101.3°F)	Faversham, Kent	10 August 2003
 Northern Ireland	30.8°C (87.4°F)	Knockarevan, County Fermanagh Belfast, County Antrim	30 June 1976 12 July 1983
 Scotland	32.9°C (91.2°F)	Greycrook, Scottish Borders	9 August 2003
 Wales	35.2°C (95.4°F)	Hawarden Bridge, Flintshire	2 August 1990

Lowest temperatures recorded in the UK:

 United Kingdom			
 England	-26.1°C (-15.0°F)	Newport, Shropshire	10 January 1982
 Northern Ireland	-18.7°C (-1.7°F)	Castlederg, County Tyrone	24 December 2010
 Scotland	-27.2°C (-17.0°F)	Braemar, Aberdeenshire Altnaharra, Sutherland	11 February 1895 and 10 January 1982 30 December 1995
 Wales	-23.3°C (-9.9°F)	Rhayader, Powys	21 January 1940

Use the information above to answer the following questions.

(a) What was the lowest temperature recorded in the UK in °C?

[1]

Lowest temperature: °C



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Examiner
only

(b) Using the values in the table, what is an approximate value for 40°C in °F?
Circle your answer. [1]

80°F 95°F 100°F 105°F 120°F

(c) Calculate the difference between the highest and lowest temperatures recorded in Wales
in °C. [2]

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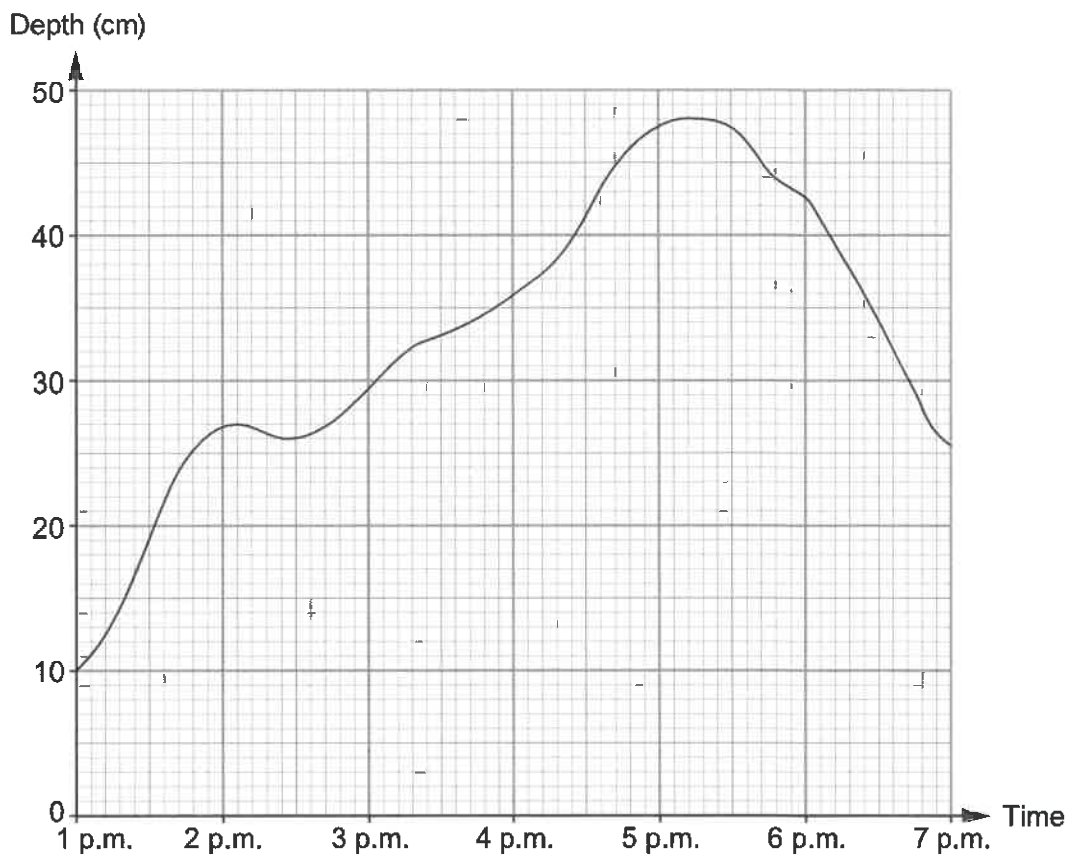
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26

10. Carys has to write a report on the water levels of the River Tad. She has recorded the depth of the water in the River Tad between 1 p.m. and 7 p.m. This is shown in her graph below.



- (a) What was the greatest recorded depth of water in the river?
Circle your answer.

[1]

26 cm 27 cm 46 cm 48 cm 50 cm



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Examiner
only

(b) In which of these 15-minute periods was the depth of water increasing most rapidly?
Circle your answer. [1]

1:15 p.m. to 1:30 p.m.

4:15 p.m. to 4:30 p.m.

5:00 p.m. to 5:15 p.m.

6:00 p.m. to 6:15 p.m.

6:15 p.m. to 6:30 p.m.

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(c) Carys looks at the part of the graph for the period 6 p.m. to 7 p.m.
Describe what this tells her about the river. [1]

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(d) For what period of time was the depth of water in the river greater than 45 cm?
Circle your answer. [1]

48 minutes

1 hour

1 hour 12 minutes

1 hour 24 minutes

1 hour 30 minutes

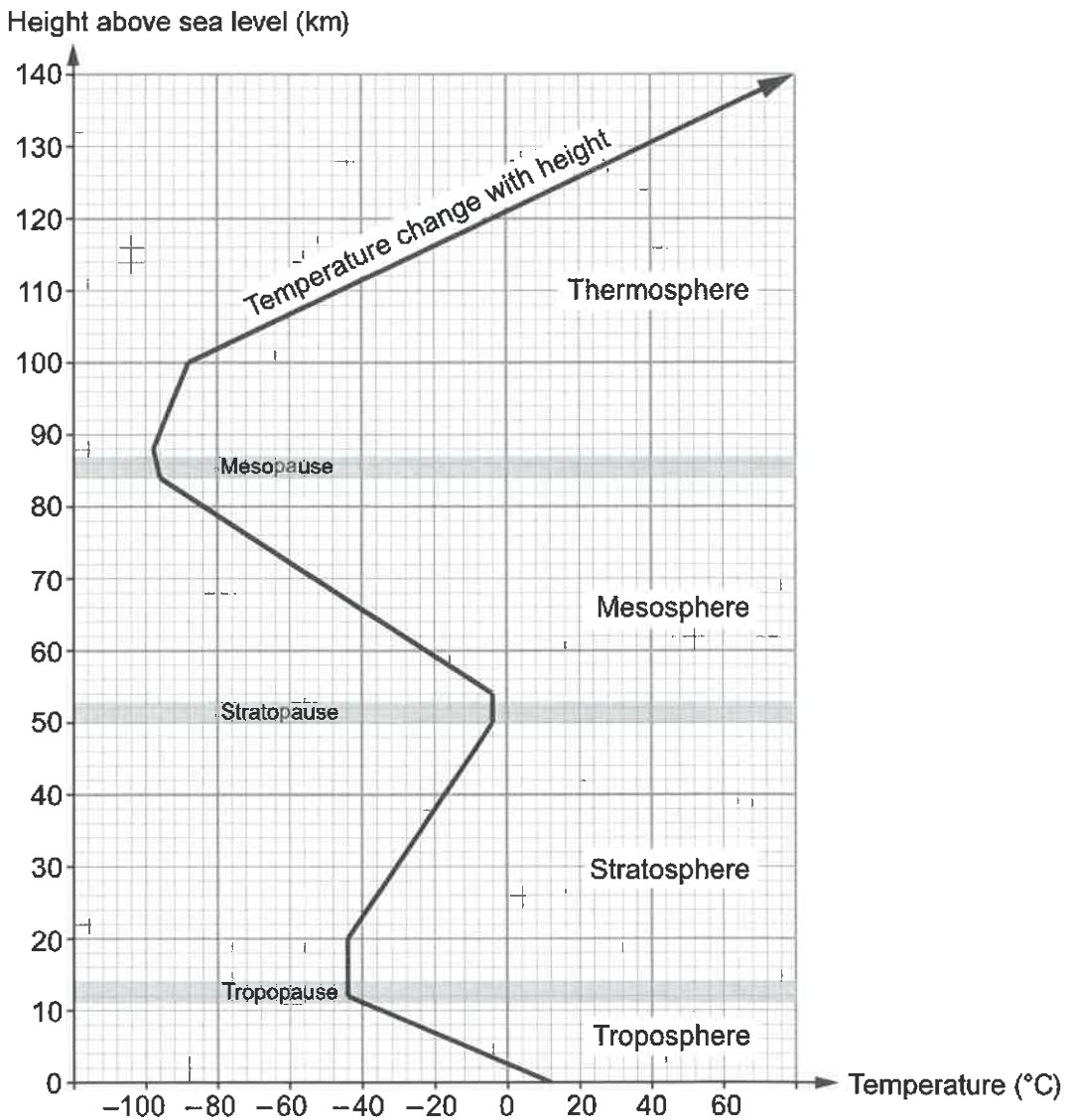
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5. The atmosphere above the Earth's surface is divided into different layers.

The graph shows the average temperature at different heights above sea level. It also shows the positions of the different layers of the atmosphere.



Use the graph to answer the following questions.

- (a) What is the approximate temperature 40 kilometres above sea level?
Circle your answer.

[1]

-30°C 10°C -22°C -18°C 130°C



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only

- (b) What is the lowest temperature shown in the **mesosphere**?
Circle your answer.

[1]

105°C

-105°C

-80°C

95 °C

-95 °C

- (c) What is the approximate difference between the least and the greatest temperature shown
in the **troposphere**?

[2]

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Examiner
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11. When it is 21:30 on a Tuesday in London, it is 02:30 on a Wednesday in Dhaka, Bangladesh.

It takes 10 hours 30 minutes to fly from Dhaka to London.
A flight leaves Dhaka on Thursday at 13:00 local Dhaka time.

On what day and at what time should this flight arrive in London?
Give your answer in local London time.

[4]

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Arrival in London:

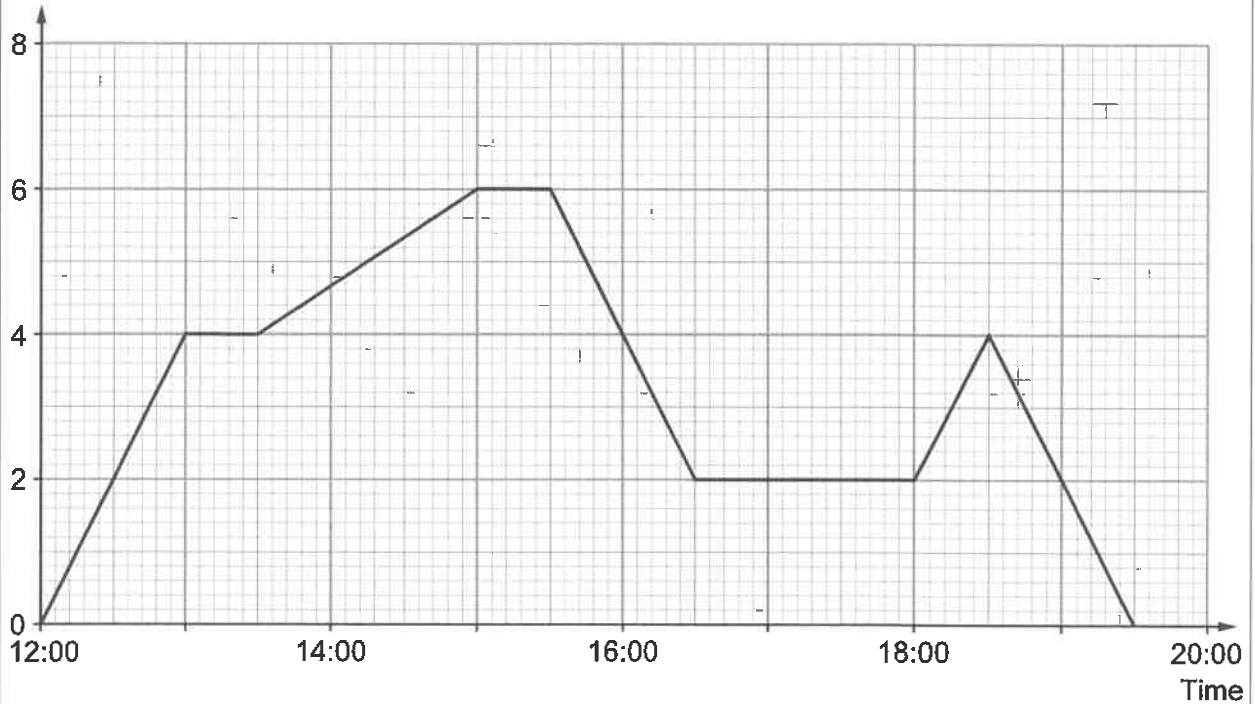
Day Time

END OF PAPER



7. The travel graph below shows a journey Gareth made yesterday.

Distance from home (km)



(a) How far away from home was Gareth at 15:00?
Circle your answer. [1]

- 0 km
- 2 km
- 4 km
- 6 km
- 8 km

(b) At what time did Gareth arrive back home?
Circle your answer. [1]

- 14:00
- 16:30
- 18:45
- 19:15
- 19:30

(c) Sometime after 5 p.m., Gareth went to the supermarket.
The supermarket was closed when he got there so he went straight back home.
At what time did Gareth arrive at the supermarket?
Circle your answer. [1]

- 17:00
- 17:30
- 18:00
- 18:15
- 18:30
- 19:00

(d) Gareth did not stop for the whole of the time between 15:00 and 15:30.
What could the travel graph tell you about his journey between these times? [1]

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Examiner only

4. Jane lives in Cardiff and plans to travel to Bangor.

(a) Jane thinks about catching the train.

TRAIN TIMES: CARDIFF TO HOLYHEAD

Cardiff Central	05:10	07:21	09:21
Hereford	06:25	08:27	10:27
Chester	08:19	10:19	12:19
Bangor	09:33	11:38	13:28
Holyhead	10:22	12:22	14:22

Jane wants to arrive at Bangor before 1 p.m.
She could catch the 07:21 train from Cardiff Central.
How long would the train journey to Bangor take?

[1]

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(b) Jane decides to drive to Bangor.



**Cardiff to Bangor
JOURNEY DETAILS**

Distance 200 miles
Time (normal traffic) 4 hours 30 minutes

(i) Jane knows that her car travels 50 miles on one gallon of petrol.
The cost of petrol is £5.90 per gallon.
How much will the petrol cost for Jane to drive from her home to Bangor?
You must show all your working.

[2]

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33

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Examiner
only

(ii) Jane needs to take a break after every 1 hour 15 minutes of driving.
How many breaks will she need to take before reaching Bangor? [1]

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(iii) Jane decides to allow five and a half hours for the whole journey.
She needs to arrive in Bangor by 1 p.m.
What is the latest time she should leave Cardiff? [1]

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34

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Examiner
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(f) Evan sees this information about the **highest** daily temperature for each month in Larnaca last year.

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Temperature (°C)	17	17	19	23	25	30	32	33	30	32	27	17

(i) What is the median of these temperatures? [2]

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(ii) Explain why the mode of these temperatures is not suitable as an average. [1]

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07



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Shape

F Num 41 NOV 2017⁶

Examiner
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2. Sian works for the packaging company *BoxCymru*.



When she started work she was given an employee number.

Her employee number is 11-17/314.

This number shows that she started work in November 2017, and she was the 314th person to start working for *BoxCymru*.

- (a) Kevin also works for the same company. His employee number is 02-15/047. In which month and year did Kevin start working for *BoxCymru*? [1]

Month Year

- (b) Sian is the last person to have been employed by the company. How many people have *BoxCymru* employed since Kevin joined the company? [1]

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- (c) Steven is the next person to be employed by *BoxCymru* after Sian. He is due to start working on 8th January 2018. What will Steven's employee number be? [2]

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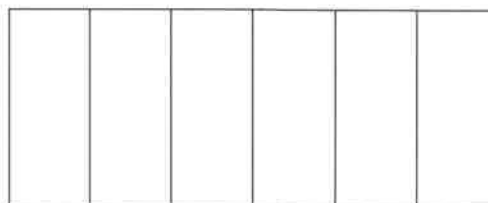
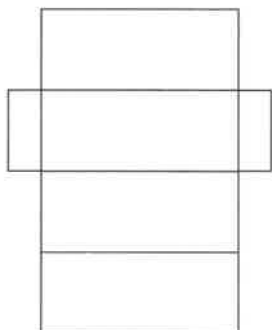
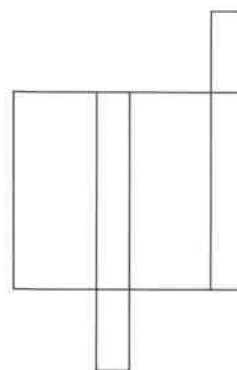
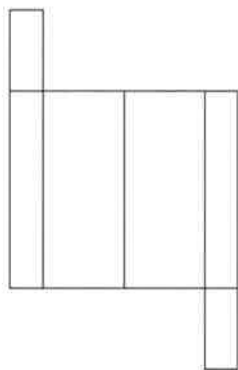
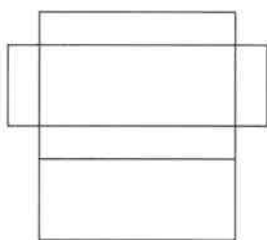


F Num 11 Nov 2017

Examiner only

- (d) Many of the boxes that *BoxCymru* use are cuboids.
Which of the following nets can be used to make the boxes?
Circle your answers.

[2]



3310U101
07



07

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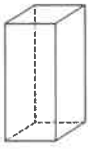



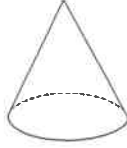

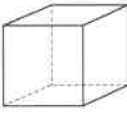
3310U101
03



03

38

3. Delyth runs her own business making and selling candles. She makes and sells four types of candle.

Type	Picture of candle	Diagram	Name of the 3-D solid	Volume of candle (cm ³)
A			240
B			283
C			CONE	270
D			CUBE	120

(a) Fill in the names of the 3-D solids in the table above. [2]

(b) Delyth uses a formula to work out the mass of wax that is needed to make one candle.

$$\text{Mass of wax in grams} = \frac{3 \times \text{volume of candle}}{5}$$

(i) What mass of wax will be needed to make a candle of type C? [2]

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Mass of the wax of a candle of type C is grams

(ii) Delyth has enough wax to make 50 candles of type A. How many type D candles can she make with the same amount of wax? [2]

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F Num 42 June 11 2017

Examiner
only

- (c) Delyth also makes small candles.
One of these candles fits in a box with a lid.
The box is a cube with sides of length 3 cm.
Use the centimetre squared paper to draw a net of the box, including the lid. [2]



3310 U201
11



Formulas

F Num 42 June 2018¹⁰

Examiner
only

6. A department store employs *trainee* and *qualified* sales staff.

Trainee staff work less than 19 hours per week.

Qualified staff work 19 hours or more per week.

(a) A formula is used to calculate the week's wage for a *trainee*.

Trainee staff wage = number of hours worked per week × £7.75

(i) Joe is a *trainee* who worked for 18 hours last week.

Calculate Joe's wage for last week.

[1]

(ii) A different formula is used to calculate the week's wage for *qualified* staff.

Qualified staff wage = number of hours worked per week × £10.60 – deductions

Ryan is a *qualified* member of staff who worked for 23 hours last week.

His deductions for last week were £21.39.

Calculate Ryan's wage for last week.

[2]

(iii) How much more did Ryan earn than Joe last week?

[1]



(b) Ashton is a member of staff who works the same hours every week.

Day	Start time	Finish time
Mon	10 a.m.	3 p.m.
Wed	10 a.m.	3 p.m.
Fri	2 p.m.	6:30 p.m.
Sun	10 a.m.	3:30 p.m.

Use this information to decide if Ashton is a *trainee* or a *qualified* member of staff.

Put a tick in the correct box
Give a reason for your answer.
You must show all your working.

[2]

Trainee

Qualified

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(c) Elena is a manager at the department store who is paid £1760 every month.

She invests 8% of her monthly pay into a pension fund.

How much does she invest into her pension fund every month?

[2]

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11. *Truetool* is a tool hire company.



Hire charges	
The cost of hiring a cement mixer in £:	$13 \times \text{number of days} + 26$
The cost of hiring a jet washer in £:	$9 \times \text{number of days} + 38$

(a) Sara hires a cement mixer for 5 days and a jet washer for 7 days from *Truetool*. How much **change** would she get from £200? [3]

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(b) Geraint hired a cement mixer for a number of days. Lois hired a jet washer for the same number of days. They each paid the same amount of money. For how many days did they each hire these tools from *Truetool*? You must show all your working. [3]

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Number of days



F Num 12 Nov 2016¹⁰

Examiner
only

5. Dafydd plans to hire a van.
He can only hire the van for a **whole number of days**.
The cost of hiring the van is given by the formula:

$$\text{hire cost} = \text{£}42 \times \text{number of days} + \text{booking fee}$$

- (a) Circle either TRUE or FALSE for each of the following statements.

[2]

When the booking fee is £18, the hire cost for 2 days is £102.	TRUE	FALSE
The hire cost is always greater than the booking fee.	TRUE	FALSE
When the van is hired for one extra day, the hire cost will be an extra £42.	TRUE	FALSE
The hire cost for 2 days is double the hire cost for 1 day.	TRUE	FALSE

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- (b) Explain why the hire cost cannot be £124 when the booking fee is £18.
You must show all your working.

[2]

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44

Perimeter, Area + Volume

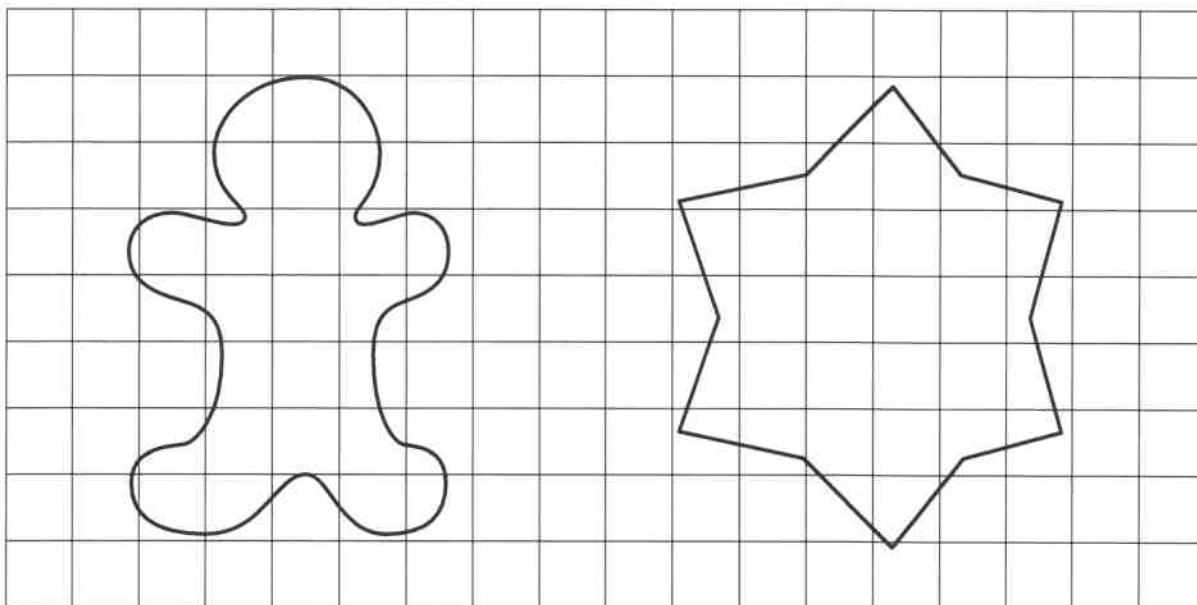
F Num 11 June 2017 ⁴

Examiner
only

2. (a) Tamsin and Sophie make biscuits.
They plan to cover the top surface of each biscuit with the same thickness of chocolate.
The biscuits are shown on the centimetre squared grid below.

Tamsin's biscuit

Sophie's biscuit



Tamsin thinks that Sophie's biscuit will need more chocolate to cover it.
Estimate the area of each biscuit.
Decide whether or not Tamsin is correct.
Show all your working.

[3]



F Num 11 June 2017⁵

Examiner
only

- (b) Tamsin and Sophie have carried out a survey to find which biscuits are the most popular. The four most popular biscuits are chocolate cookies, custard creams, jammy dodgers and digestives.
Design a tally chart that Tamsin and Sophie could have used to collect their data and show their results. [3]

- (c) Tomas makes rectangular biscuits.
The top of each biscuit has a surface area of 30 cm^2 .
Tomas covers the surface area of the top of each biscuit with chocolate.
The chocolate costs 3 pence per 10 cm^2 .
Calculate the cost of covering 200 of these biscuits with chocolate. [3]

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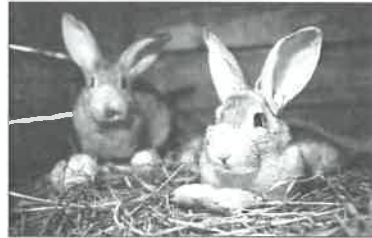
3310U101
05



05

46

2. Declan has two pet rabbits.
He wants to buy a new rabbit hutch.



Declan finds a rule to work out the amount of floor space that each rabbit should have in the hutch.

$$\text{Floor space needed} = \text{mass of rabbit} \times 1800$$

Floor space is measured in cm^2 .
Mass is measured in kg.

- (a) Declan's larger rabbit weighs 3.2 kg.
What floor space should this rabbit have in the hutch? [2]

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- (b) Declan works out that his smaller rabbit needs 4860 cm^2 of floor space.
What is the mass of the smaller rabbit? [2]

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F Num 112 Nov 2017⁹

Examiner
only

- (c) Declan sees a hutch with a rectangular floor that measures 150 cm by 80 cm.
Show that this hutch has enough floor space for the two rabbits.
You must show all your working.

[3]

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3310U201
09



09

48

8.

 <h3 style="margin: 0;">Maes Alun Camping Charges</h3> 
<p>Tents covering ground area:</p> <ul style="list-style-type: none"> • less than or equal to 12 m² cost £14 per night • greater than 12 m² cost £16 per night <p style="text-align: center; margin: 10px 0;"><u>AND</u></p> <p>Charge per person: £4 per night</p> <p style="text-align: center; margin-top: 10px;">Stay 5 nights and get the next night completely free. This means no charge for tents or people on every 6th night.</p>

Rhodri and Lars are planning a camping holiday, staying at *Maes Alun Camping*. They are going to:

- take only one tent between them,
- take a tent covering a rectangular ground area, measuring 2.5 metres by 4.4 metres,
- both stay for a total of 12 nights.

Their holiday is just 8 weeks away.

They each plan to save £15 per week from now until their holiday in 8 weeks' time.

Will the amount they save be enough to pay for their holiday?

You must show all your working.

[8]

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49

F Num 41 June 2017¹⁵

Examiner
only

A large rectangular area with horizontal dotted lines for writing.



15

© WJEC CBAC Ltd.

50

(3310U10-1)

Turn over.

10. Lazar wants to send a package to Germany. He looks at pricing charts for three different companies, *ParcelMax*, *DirectGo* and *Pack2save*.

ParcelMax
Total cost = Sum of the 3 dimensions in cm \times £0.60

DirectGo
Total cost = Volume measured in $\text{cm}^3 \times$ £0.01

Pack2save
Total cost = Total area of all 6 faces measured in $\text{cm}^2 \times$ £0.02

Lazar's parcel is a cuboid measuring 10 cm by 20 cm by 30 cm.

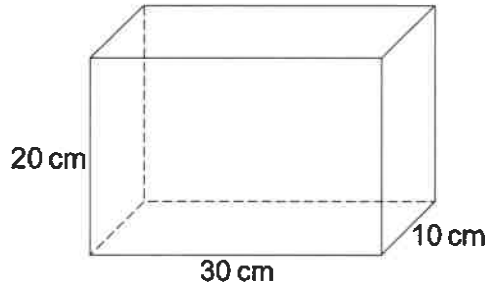


Diagram not drawn to scale

Find the cost of sending the parcel for each of the three different companies. Give each of your answers in pounds (£).

(a) *ParcelMax* [2]

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(b) *DirectGo* [3]

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F Num 11 June 2017¹⁹

Examiner
only

(c) Pack2save

[4]



8. Mehmet needs a new fence for one end of his garden. Fences are constructed using panels and posts.



(a) Posts are needed between each fence panel and at both ends. How many posts are needed for a fence made with 34 panels? Circle your answer.

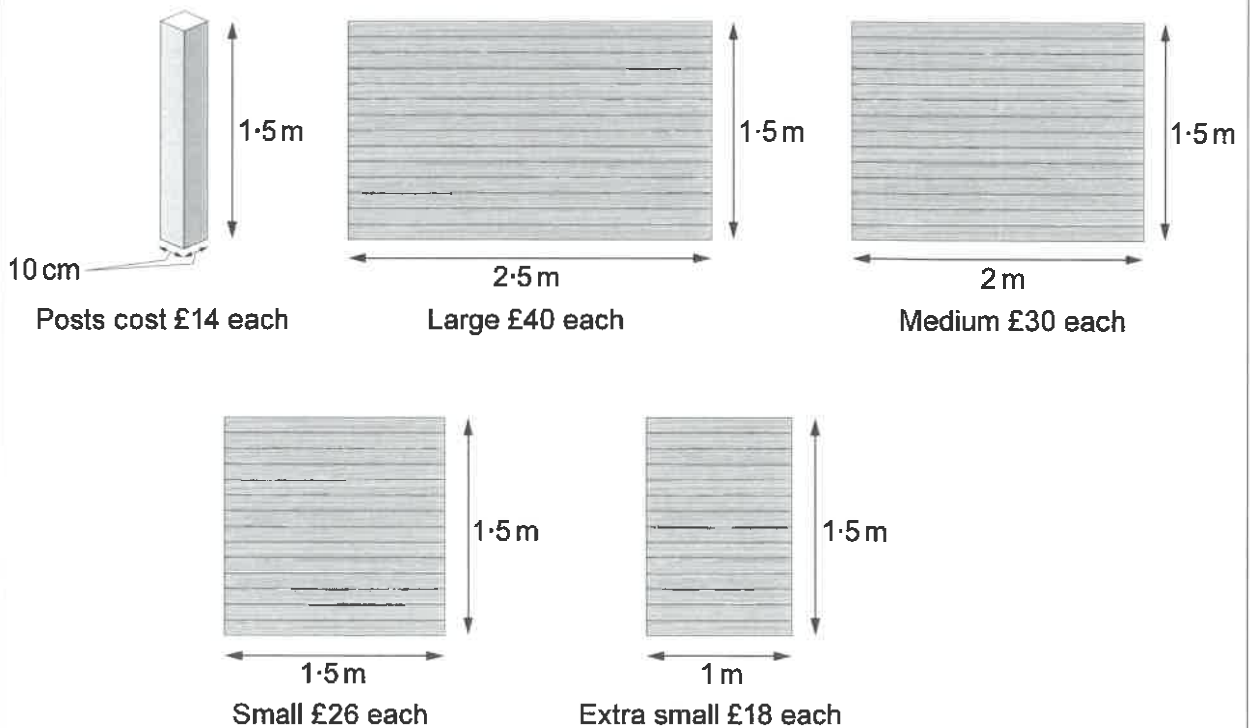
[1]

- 33
- 35
- 37
- 34
- 36

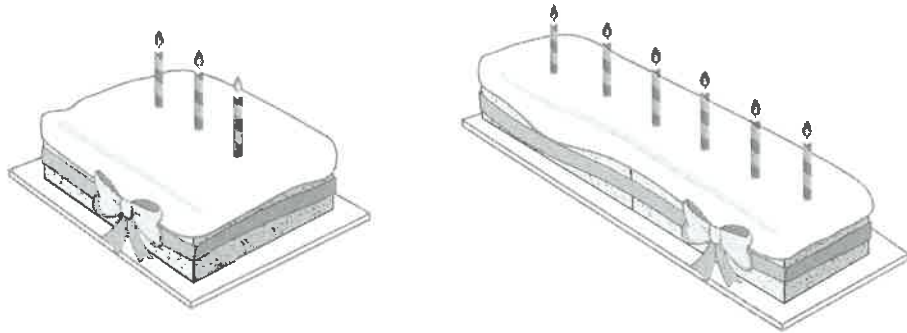
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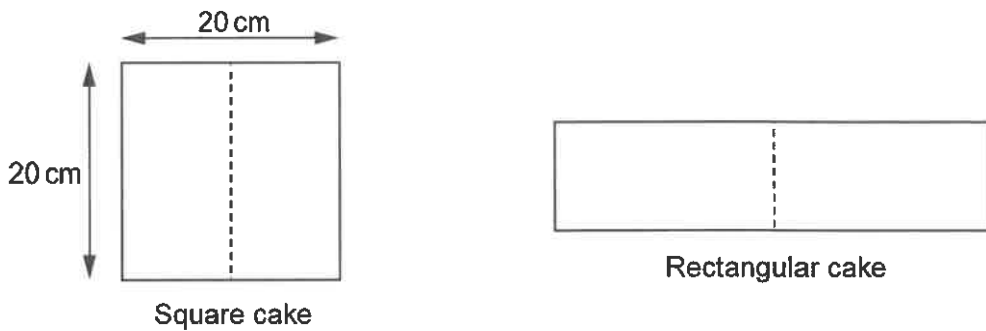
(b) Mehmet wants a new 1.5 m high fence for his garden. The fence panels come in different lengths. The posts Mehmet wants to use are all the same size. Mehmet has the following information.



6.



Delyth makes birthday cakes. To make a rectangular cake, Delyth cuts a 20 cm square cake in half, and joins the two pieces together, as shown in the diagram below.



Delyth puts ribbon around the edge of her cakes as shown in the pictures above. How much more ribbon does Delyth need for the rectangular cake than for the square cake? You must show all your working. [3]

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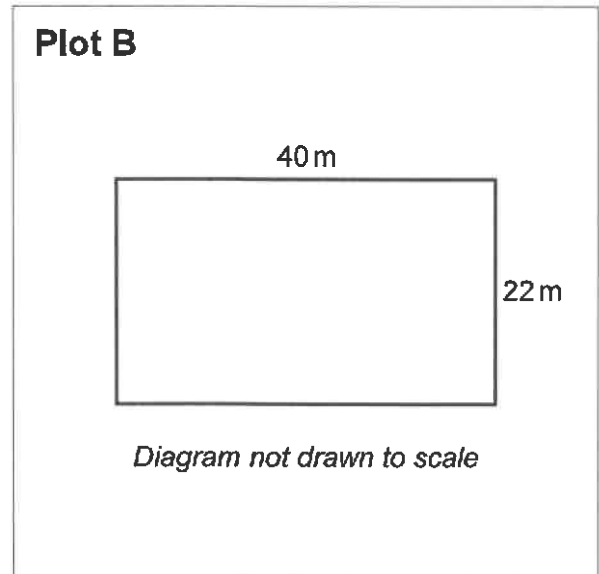
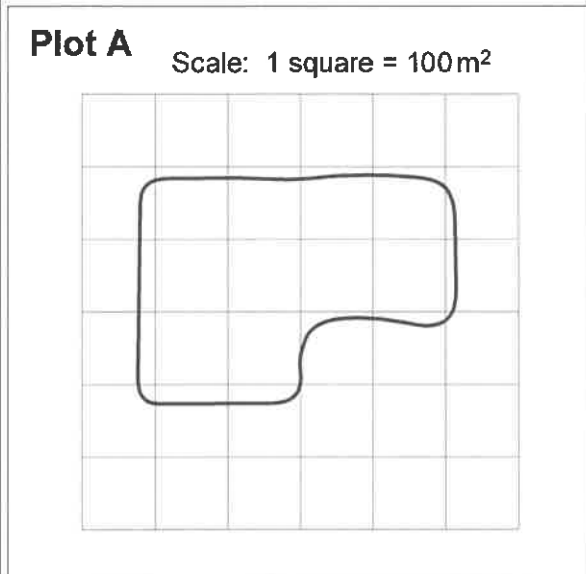
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3. In this question, you will be assessed on the quality of your organisation, communication and accuracy in writing.

Mr Jones wants to build a new house.
He has found two suitable plots of land which cost the same amount.
Each plot of land has space for his house and a large garden.
The plan for each plot of land is shown below.



By considering the area of each plot, decide which plot of land Mr Jones should buy.
You must show all your working.

Give a reason for your answer.

[6 + 2 OCW]

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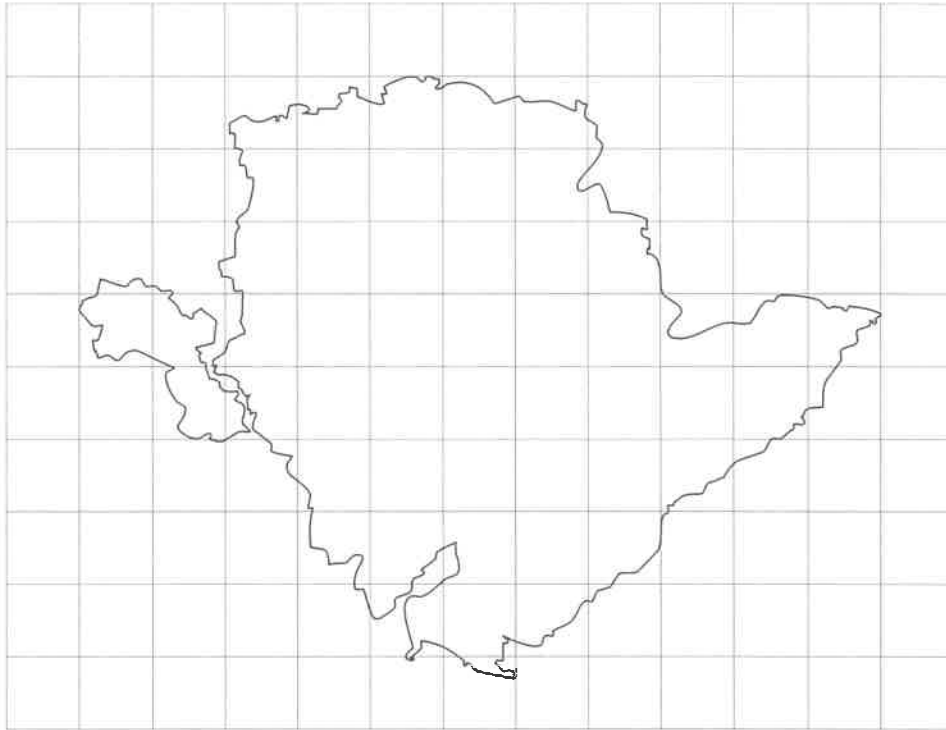
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F Num 12 NOV 2016³

Examiner
only

1. (a) A map of Anglesey is drawn on the grid below.



Each square on the grid represents an area of 16 km^2 .
Find the approximate area of Anglesey in km^2 .

[3]

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Area of Anglesey is km^2 .

- (b) There is a coastal path around Anglesey.



Diagram not drawn to scale

Cennydd took 8 days to complete the walk around the coastal path.
He recorded the number of miles that he walked on each of the 8 days.

20, 17, 10, 19, 15, 14, 13, 17

What is the median number of miles walked each day?

[2]

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03

57

6. The diagram shows the plan of the floor of Nick's room.

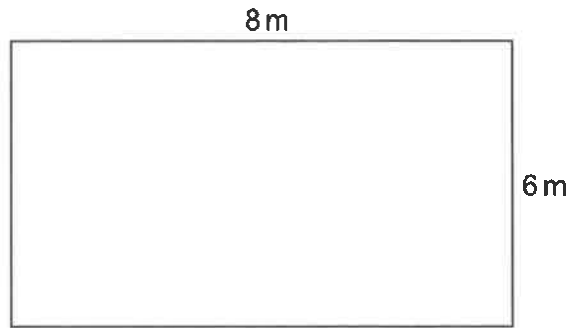


Diagram not drawn to scale

Nick is going to fit square carpet tiles to cover the floor.

Square carpet tiles
Each tile measures
0.5 m by 0.5 m
£2.50 per tile

How much will it cost Nick to cover his floor with these carpet tiles?
You must show all your working.

[4]

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Recipes

F Num 42 June 2017¹⁸

Examiner
only

9. Gustav is making some scones for his sister's birthday party.

Recipe to make 12 scones

450g self raising flour
2 teaspoons of baking powder
75g butter
50g caster sugar
2 eggs
225ml milk

Bake at 428°F for 10 to 15 minutes

- (a) How much self raising flour will Gustav need to make 30 scones?
Circle your answer.

[1]

900g

1000g

1100g

1125g

1350g

- (b) In the recipe, the temperature of the oven is given in degrees Fahrenheit, F .
The temperature gauge on Gustav's oven shows degrees Celsius, C .

The formula below is used to convert Fahrenheit into Celsius.

$$C = \frac{5F - 160}{9}$$

At what temperature should Gustav bake the scones?
Give your answer in degrees Celsius.

[2]

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..... °C



12. Sam is making a large pot of cheese sauce for a party.
 Sam uses the conversions
- 1 ounce \approx 28 grams,
 - 1 pint \approx 568 millilitres.

He wants to write the following recipe ingredients in grams and millilitres.

Cheese sauce

Ingredients:

4 ounces of butter

$3\frac{1}{2}$ ounces of flour

3 pints of milk

9 ounces of cheese

Using Sam's conversions, complete the ingredient table below. [4]

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Cheese sauce

Ingredients:

..... grams of butter

..... grams of flour

..... millilitres of milk

..... grams of cheese

END OF PAPER



3. Mair has an old family recipe for making Welsh cakes.

Ingredients for 10 Welsh cakes

- 8 ounces plain flour
- 4 ounces butter
- 3 ounces caster sugar
- 2 ounces currants
- 1 egg



(a) Mair wants to make 40 Welsh cakes.
Complete the recipe.

[1]

Ingredients for 40 Welsh cakes

32 ounces plain flour

..... ounces butter

12 ounces caster sugar

..... ounces currants

4 eggs

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(b) Flour is sold in packs weighing one kilogram each.
Mair knows that she needs 2 pounds of flour to make 40 Welsh cakes.
Is a one kilogram pack of flour enough?
Give a reason for your answer.

[1]

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- (c) Mair sells Welsh cakes to a tearoom.
She sells 40 Welsh cakes every week for 12 weeks.
The weekly cost of making the Welsh cakes is £4.50.
She charges the tearoom 25p for each Welsh cake.
How much profit does Mair make in total over the 12 weeks?
Give your answer in £.

[4]

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Profit = £






Sequences

F Num 11 June 2018⁹

Examiner only

4. A lighting company sells sets of lights in different sizes. Some of the sets are shown below.

<p style="text-align: center;">Set 1</p> <p>3 light bulbs</p>	
<p style="text-align: center;">Set 2</p> <p>5 light bulbs</p>	
<p style="text-align: center;">Set 3</p> <p>7 light bulbs</p>	

The pattern can be continued to make larger sets of lights.

- (a) How many light bulbs are needed to make **Set 5**?
Circle your answer. [1]

9 10 11 12 13

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- (b) Which **set** has 27 light bulbs? [2]

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Set

- (c) A customer thinks that to find the number of bulbs that are in a set, you multiply the set number by 3.
Is the customer correct?

Yes No

Give a reason for your answer. [1]

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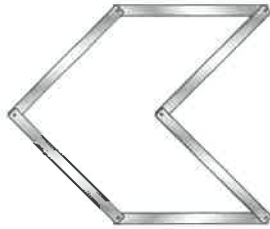
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63

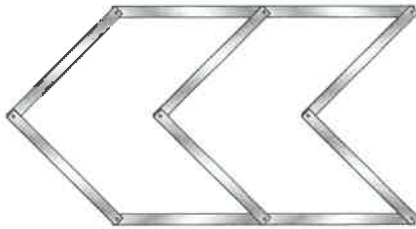
F Num u1 Nov 2017¹¹

Examiner
only

4. Sophia designs jewellery.
She is working on the design of a bracelet.
Each link of the bracelet uses lengths of silver, .



1 link
6 lengths of silver



2 links
10 lengths of silver

- (a) How many lengths of silver are needed for 3 links of the bracelet?
Circle your answer.

[1]

14 16 12 18 10

- (b) Sophia thinks that she needs 6 lengths of silver for each extra link.
Explain why Sophia is not correct.

[1]

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- (c) Sophia uses 50 lengths of silver to make a bracelet.
How many links are there in this bracelet?

[2]

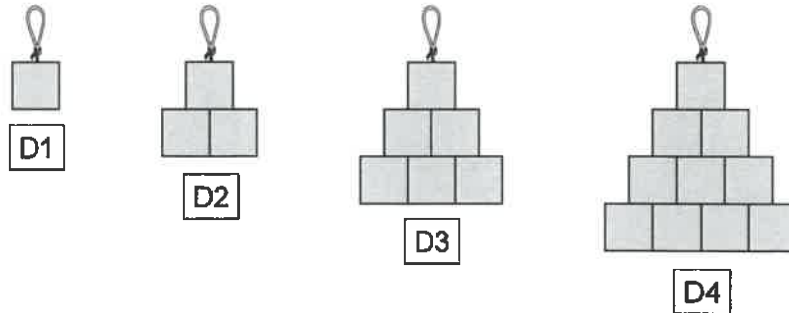
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11. Ollie has a job in a workshop that makes decorations.

He makes decorations using small squares of stained glass.

Ollie has made the following decorations.



He labels the first decoration D1.

He labels the next 3 decorations in order, D2, D3 and D4.

He continues to make decorations and labels following this pattern.

- (a) After making decoration D5, Ollie notices he only has 10 small squares of stained glass left. How many **more** squares of stained glass will Ollie need to make decoration D6? [2]

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- (b) Ollie uses a rule to work out how many squares he needs for each decoration. He states that to make decoration D10 he would need 55 squares. Is Ollie correct? You must show your working. [1]

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END OF PAPER



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

Evan wants to book a holiday in Cyprus for one week. He finds a holiday using the internet.



Half board includes breakfast and evening meal.
Full board includes breakfast, lunch and evening meal.

Hotel Amathas * * * *

£860 per adult for one week
£500 per child for one week
(HALF BOARD)

UPGRADES (for one week)

FULL BOARD extra £80 per adult, extra £55 per child
Extra £115 for a room with a sea view.

DISCOUNT

10% discount for payment in full at the time of booking.

- Evan wants to book one room for two adults and one child.
- He wants an upgrade to full board for all three people.
- He wants a room with a sea view.

Evan pays in full when he books the holiday.
Work out the total cost.
You must show all your working.

[6 + 2 OCW]

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66

1.



In April 2017, Matthew bought a second-hand car.
Exactly one year later, in April 2018, Matthew sold the car.

(a) When Matthew bought the car, the mileage was 52 907.

5	2	9	0	7
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When Matthew sold the car, the mileage was 61 814.

6	1	8	1	4
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How many miles did Matthew's car travel in the year?

[1]

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(b) In April 2018, Matthew bought a new car.
Matthew thinks he will drive about the same number of miles each year as he did in his old car.

Use your answer to part (a) to estimate the number of miles that Matthew's new car will travel in 3 years.

Give your answer correct to the nearest thousand miles.

[3]

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67

F Num June 2017 U³

Examiner
only

1. Owen buys houses in Wales. He then rents them out to people.
He uses a website to find the average price for a detached house in 6 different counties.

Average House Prices (November 2015)

County	Average house price (£)
Anglesey	171 684
Carmarthenshire	158 973
Powys	199 998
Cardiff	269 885
Neath Port Talbot	144 762
Ceredigion	182 852

- (a) Calculate the difference between the average house price in the most expensive county and least expensive county.
Give your answer correct to the nearest £1000. [2]

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- (b) Owen says,

"The average house price in four of the counties is less than £180 000."

Is Owen correct?
Give a reason for your answer. [1]

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- (c) Which of the following is the best approximation for the average house price in Powys?
Circle your answer. [1]

£199 990 £199 900 £199 000 £190 000 £200 000



03

68

F Num 12 June 2017

Examiner
only

1. The chart below shows the road distances between some towns and cities. The distances are given in miles.

Abergavenny			
18	Newport		
45	53	Gloucester	
50	32	36	Bristol

Wyn lives in Abergavenny and works in Bristol.

- (a) Use the chart to find the road distance from Abergavenny to Bristol. [1]

- (b) Wyn works in Bristol for 5 days each week. Each day, he drives to and from work using the route shown on the map.

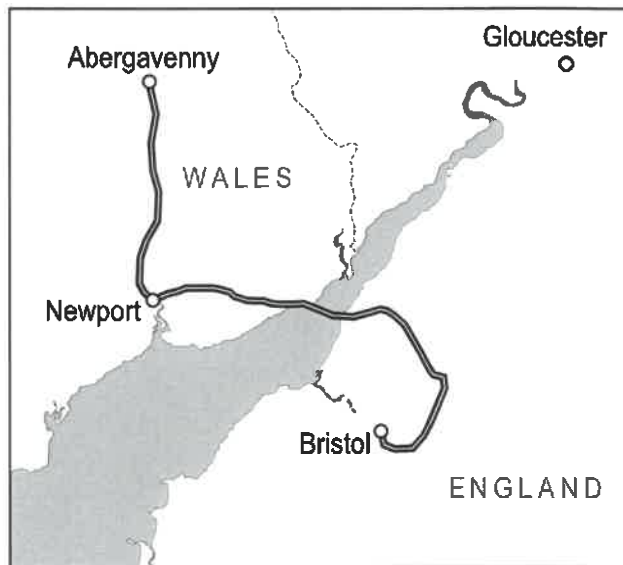


Diagram not drawn to scale

- How many miles, in total, does he travel to and from work each week? [2]



04

69

F NUM 12 June 2017⁵

Examiner only

- (c) One day, Wyn had to use a different route through Gloucester to get to and from work.

Alternative Route

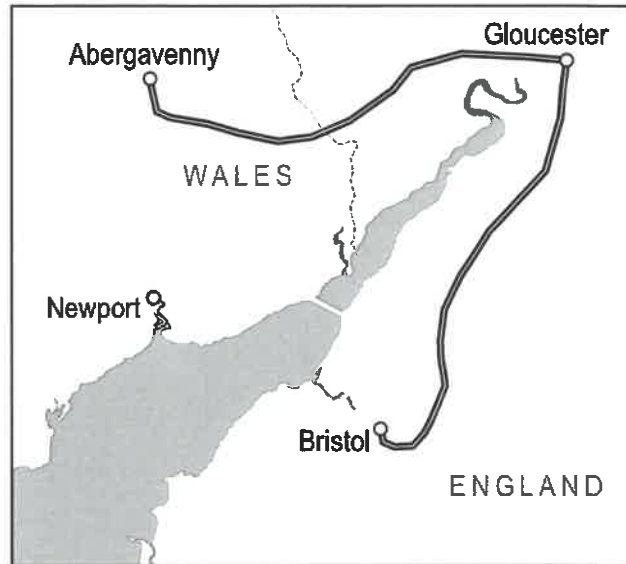


Diagram not drawn to scale

Use the chart to work out how many **extra** miles Wyn travelled that day.
You must show all your working.

[4]

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3310U201
05



05

2. (a) David and Gwyn have decided to take part in a charity running event. They both ordered some new running kit from an online discount store.

A pair of trainers  £39.99	A pair of socks  £2.99	A pair of leggings  £12.90
A running vest  £15.50	A pair of shorts  £11.98	A water bottle  £6.00

- (i) David ordered the following items:
- 1 pair of trainers,
 - 2 pairs of shorts,
 - 3 pairs of socks.

What was the total cost of these items?
You must show all your working.

[3]

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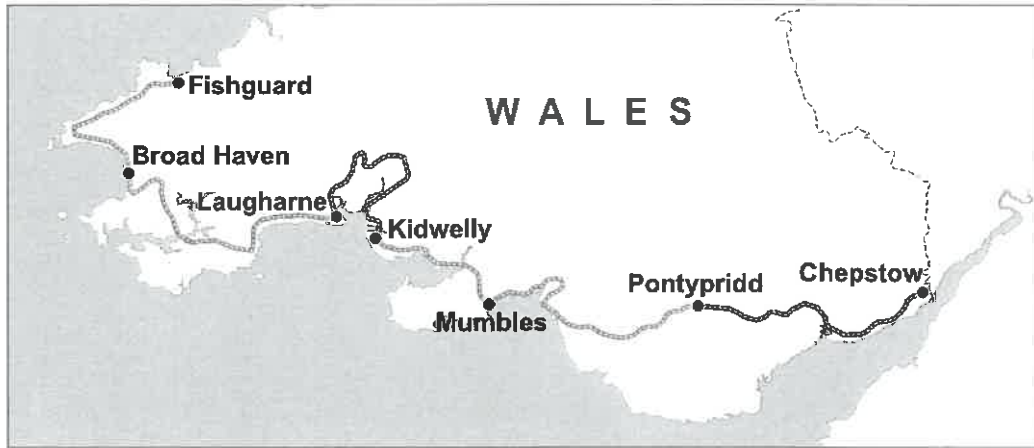
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2. The Celtic Trail is part of the UK National Cycle Network.



(a) Arfon plans a cycle tour on the Celtic Trail from Fishguard to Chepstow. The route is split into stages.

Stage	Starting from	Going to	Distance (miles)
1	Fishguard	Broad Haven	36
2	Broad Haven	Laugharne	46
3	Laugharne	Kidwelly	32
4	Kidwelly	Mumbles	29
5	Mumbles	Pontypridd	40
6	Pontypridd	Chepstow	44

(i) What is the total distance that Arfon plans to cycle?

[1]

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F Num 12 June 2018⁵

Examiner only

- (ii) Arfon plans to take 3 days for his cycle tour.
He cannot cycle further than 85 miles in one day.

Complete the table to show how Arfon could plan his route from Fishguard to Chepstow. [2]

Day	Starting from	Going to	Distance (miles)
1	Fishguard		
2			
3		Chepstow	

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- (b) Bryn plans to cycle a total of 425 miles from Fishguard to London.
He uses Arfon's plan from (a)(ii) for the first three days of his cycle ride.
Bryn also cannot cycle more than 85 miles in one day.

Explain why Bryn cannot complete his cycle ride from Fishguard to London in 5 days.

You must show all your working. [2]

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