GCSE NUMERACY

FOUNDATION

REVISION

BOOKLET 2

NOVEMBER 2018

Name: ....

Teacher: ....

PONTARDDULAIS

4
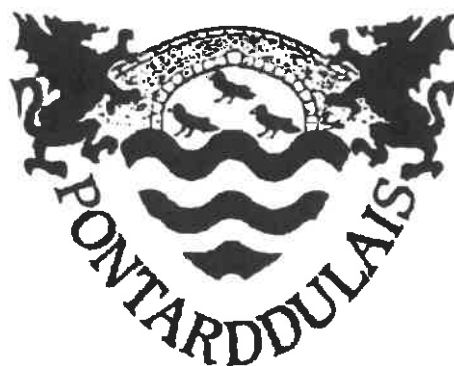
2. Mr Jones and his family visited a café for breakfast.
They ordered from the breakfast menu.

BREAKFAST MENU

Full breakfast £7.50	Tea £1.85
(Child's breakfast half price)	
Cereal £2.95	Coffee £1.85
Toast and jam 95p	Fruit juice £1.95

(a) Complete their bill. [4]

ITEM	COST (£)
2 full breakfasts	£15.00
1 child's breakfast	
4 toast and jam	
3 teas and 2 coffees	
TOTAL	

(3310U20-1)

75

5

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

Mr Jones paid for the breakfast with two £10 and three £5 notes. He told the waitress to keep the change as a tip.
A reasonable tip is thought to be more than 10% of the total cost of the bill.

Did Mr Jones give the waitress a reasonable tip?
Explain your answer and show all your working.   [4 + 2 OCW]
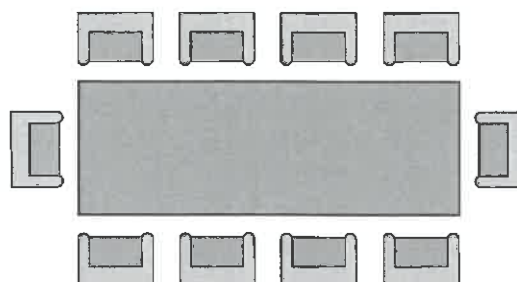
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76

Turn over.

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

Aled plans a Christmas party.
He decides to use a company called *Table Toppers* to supply tables, chairs and catering.
The circular tables each seat 6 people and the rectangular tables each seat 10 people.
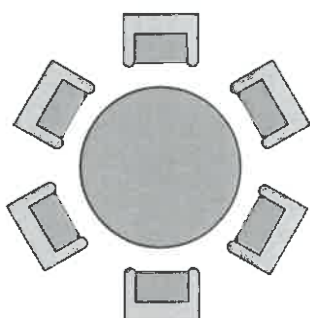
Table Toppers charge as shown below.

Table Toppers		
Hiring Fees	Circular tables	£3 each
	Rectangular tables	£4 each
	Chairs	£2 each
Catering	Buffet	£9 per person
	Hog Roast	£12 per person

All the people invited to the party will fit around 3 circular tables and 2 rectangular tables. There will be no spare seats.

Aled hires 3 circular tables, 2 rectangular tables, and a chair for each person at the party.
He decides to provide a buffet meal for each person.

How much does *Table Toppers* charge Aled in total?
You must show all your working.   [6 + 2 OCW]

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77

78

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Examiner only

4.

Raspberries cost £3.60 per kg

Pears cost £2.60 per kg

Rhys buys some raspberries and some pears.
Rhys weighs the fruit he buys.
The raspberries cost him £4.50.

(a)   Calculate the mass of the raspberries Rhys buys.   [2]

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(b)   He finds that the mass of the pears is three times the mass of the raspberries.
      How much change does Rhys get from £20 when buying the raspberries and pears?
      You must show all your working.   [4]

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79

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4. Mrs Henry works part time in a factory.
The amount of time for each day that she worked last week is shown in the table.

Day	Hours worked
Tuesday	$3\frac{1}{2}$
Wednesday	4
Thursday	$4\frac{1}{2}$
Friday	5
Saturday	3

Mrs Henry's pay is calculated using the following:

Tuesday to Friday:
- £8 per hour for the first 15 hours
- £9 per hour for any extra hours

Saturday:
- double the usual rate of £8 per hour

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

Work out Mrs Henry's total pay for last week.
You must show all your working. **[6 + 2 OCW]**

80

(3310U10-1)

9

(b) On another week Mrs Henry was paid £188.

She puts 20% of her weekly wage into a savings account.

How much did Mrs Henry put into her savings account that week?
Circle your answer. [1]

£9.40   £18.80   £34.20   £37.60   £150.40

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3310U101
09

3. Mr Rook wants to update his kitchen.

(a) He needs the carpenter, plumber and electrician to work together for 3 days in January.

    (i)   The electrician is available from the 13th to the 22nd inclusive.
        The plumber is available from the 5th to the 18th inclusive.
        The carpenter is available any day except for Saturdays, Sundays and Mondays.

        Find the 3 dates that Mr Rook can book the carpenter, plumber and electrician to work together.
        Use the calendar below.   **[2]**

JANUARY 2018

MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY	SUNDAY
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

The 3 dates are .... , ...   and   ....

(3310U10-1)

82

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

Mr Rook will need to pay the carpenter, plumber and electrician for the 3 days' work. The working day is from 8 a.m. to 5 p.m., with an hour off for lunch. Their charges are:

Carpenter	£20 per hour (not including lunch time)
Plumber	£180 per day
Electrician	£575 for the 3 days

Calculate the total amount that Mr Rook has to pay.

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

(3310U10-1)

83

Turn over.

Examiner only

5. *(a)* *Cornell's* supermarket sells 1-litre cartons of orange juice at £1.80.

Cornell's supermarket has an offer of 'buy 2 get 1 free'.

Larkman's supermarket sells 2-litre bottles of orange juice at £2.20.

Janice needs to buy 6 litres of orange juice.

How much money would Janice save by buying the orange juice at *Larkman's* supermarket? [4]

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

Mike makes and sells three different designs of Welsh love spoons.

Small   Medium   Large

The table below shows Mike's sales figures for last September.

	Number sold	Selling price for each love spoon
Small	14	£8.25
Medium	9	£19.95
Large	5	£35.00

It cost Mike £225 to make all these love spoons.

What is Mike's profit from the sale of these love spoons?

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

(3310U20-1-R1)

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(3310U20-1-R1)

86

F Num U2 June 2018

8. Miss Price has received her total bill for water.
It is based on estimates of how much fresh water is used and how much waste water is produced.
Her bill is £58.80.

Miss Price's **actual** use of water was as follows:
- fresh water used $25 \cdot 25 \, m^3$,
- waste water produced $22 \cdot 31 \, m^3$.

Fresh water used costs £1.08 per m^3.
Waste water produced costs £1.70 per m^3.

By how much has Miss Price been overcharged or undercharged?
You must show all your working. [4]

(3310U20-1-R1)

Turn over.

F Num u2 June 2018

9. Emrys, Layla and Rhys go shopping together for fruit.
They buy pears and apples from a market stall.

Emrys buys 3 pears and 1 apple for £1.22.

Layla buys 3 apples for 78p.

Rhys buys 5 pears and 2 apples.

How much change will Rhys receive from £5 when paying for 5 pears and 2 apples? [6]

Change from £5 is £ ....

(3310U20-1-R1)

24

Examiner only

12. *Organics4U* is a company based in Wales that delivers organic products.
Organics4U has 16 vehicles on the road every working day.
The company has 6 vans and 10 trucks.

Ffion has the following information for each type of vehicle.

Type of vehicle	Average distance travelled per litre (km per litre)	Average distance travelled per day (km per day)
Van	8	256
Truck	5·5	704

The fuel used by all of the 16 vehicles costs £1.10 per litre.
Use this information to calculate the **total** fuel bill for 1 working day.
You must show all your working. [6]

END OF PAPER

89

(3310U20-1)

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

It costs Delyth £2.35 to make each small candle.
It costs 15p to make each box.

Delyth sells 20 candles, each in a separate box, for a total of £84.
How much profit does Delyth make?
You must show all your working.   [3 + 2 OCW]

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Examiner only

12. Grace sees a newspaper advertisement for *Blake's Mopeds*.

Blake's Mopeds

Best deal!
Valid if you show this advertisement.

Moped £400

Helmet should be
£80, we offer 15%
off this price

Other costs payable are
· insurance £151.20, and
· vehicle tax £37.

Grace is planning to save for this offer.
She also wants to save enough money for the first month's fuel.

The moped travels 20 miles on each litre of fuel.
A litre of fuel costs £1.26.
Grace estimates she will travel approximately 350 miles each month on her moped.

Starting this month, Grace will be able to save £60 per month.

After how many **complete** months will Grace have saved enough money for this offer, including the first month's fuel?
You must show all your working. [6]

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END OF PAPER

92

6.

Small bottle
300 ml for 66p

Medium bottle
400 ml for 92p

Large bottle
500 ml for £1.25

(a) Roland is going to buy some orange juice for a party.
Which size bottle of orange juice offers the best value for money?
You must show your working. [3]

(b) Galina needs to buy **exactly** 800 ml of orange juice.
Which is the best option for Galina?
You must show your working and consider all options.
You must give a reason for your choice. [3]

(3310U10-1)

93

Turn over.

7. Four different supermarkets have special offers on the price of lemons.

Supermarket	Special offer
Cost 4go	Lemons: usually 40p each Now on offer! Buy 3 for the price of 2
Edges Mart	A net of 4 lemons for 75p
Food Uno	A bag of 5 lemons for 76p
Greenway	Lemons: only 26p each

Aled needs 6 lemons to make lemon cakes for a birthday party.

Aled only has time to go to one supermarket.

Calculate how much Aled would pay in each of the supermarkets.
In which supermarket will he be able to get the lemons he needs for the least amount of money?
You must show all your working. [5]

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(3310U10-1)

94

Examiner
only

10. Marcin has a market stall to sell his printed T-shirts.

It costs him:
*   £250 to buy 100 **plain** T-shirts,
*   50p to print a design on each T-shirt.
Marcin sells his printed T-shirts for £4.00 each.

At the start of the week:
*   His bank account balance is £820.
*   Marcin has 100 printed T-shirts ready to sell.
*   He has already paid for these printed T-shirts.

During the week:
*   Marcin sells his stock of 100 T-shirts.
*   He pays all the money he takes from selling T-shirts into his bank account.
*   He buys and prints another 400 T-shirts.
*   Marcin **does not** sell any of these 400 T-shirts.

How much will Marcin have in his bank account at the end of this week?
You must show all your working.   [4]

96

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Examiner
only

8. Ewan is going on holiday to India.
He has saved £450 to exchange for Indian rupees.

(a) The exchange rate on the internet last week was £1 = 99.40 rupees.
If Ewan had been going on holiday last week, how many rupees could he have bought?

[2]

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(b) Ewan exchanges his money on arrival in India.
The exchange rate is now £1 = 99.72 rupees.

The exchange bureau only has 500 rupee notes.
Ewan wants to buy as many rupees as possible with his £450 savings.

How much of his £450 will Ewan spend buying rupees?
Give your answer correct to the nearest penny.
You must show all your working.

[4]

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Turn over.

16

8. The map shows a part of Wales.
    The position of Newtown is shown on the map.
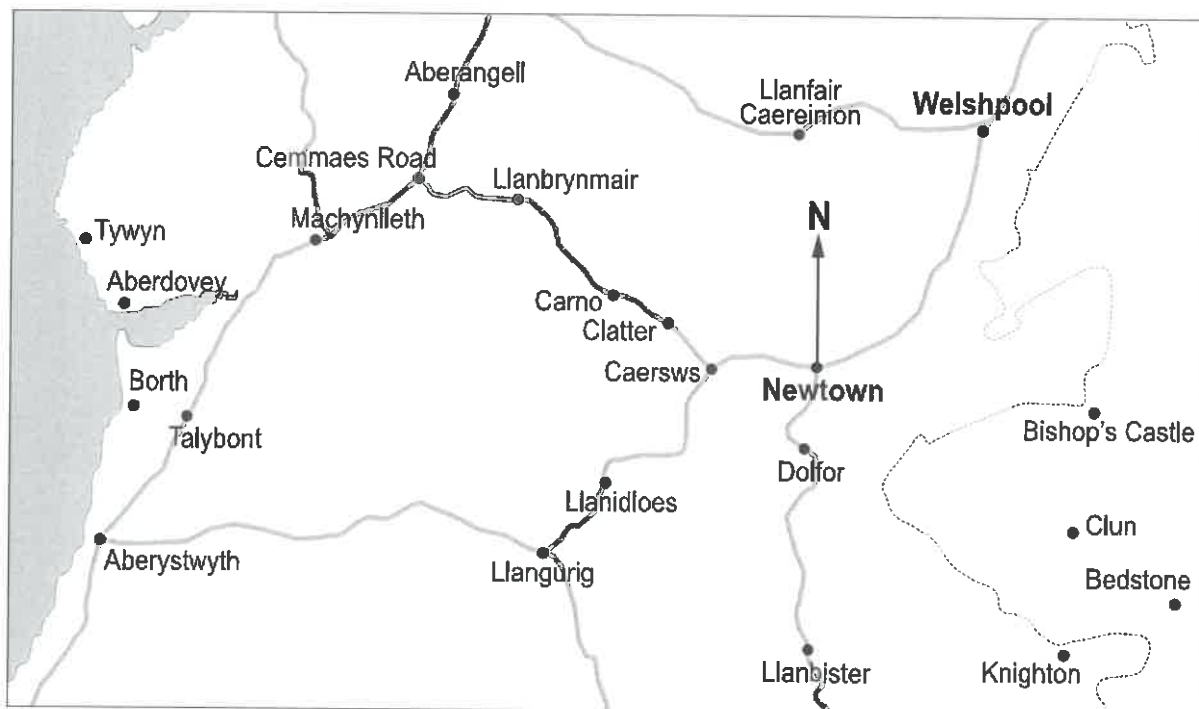
(a) Write down the bearing of Welshpool from Newtown.   [1]

    .... °

(b) Name the place on the map that is on a bearing of 235° from Newtown.   [2]

    ....

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98

(c)   The distance from Newtown to Welshpool is approximately 14 miles by road.

(i)   **Estimate** the distance by road from Welshpool to Llanfair Caereinion in miles.   [1]

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.... miles

(ii)   Megan lives in Cemmaes Road.
To travel to work, she starts by heading towards Machynlleth.
Her journey to work is approximately **40 km**.

Convert 40 km to miles.   [2]

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.... miles

In which town or village could Megan work?   [1]

....

(3310U10-1)

99

Turn over.

9. Kari is making a jigsaw puzzle.
    She has designed the pattern on a piece of paper.
    Kari plans to make each piece of the jigsaw a different colour.

    Part of her plan is shown below.
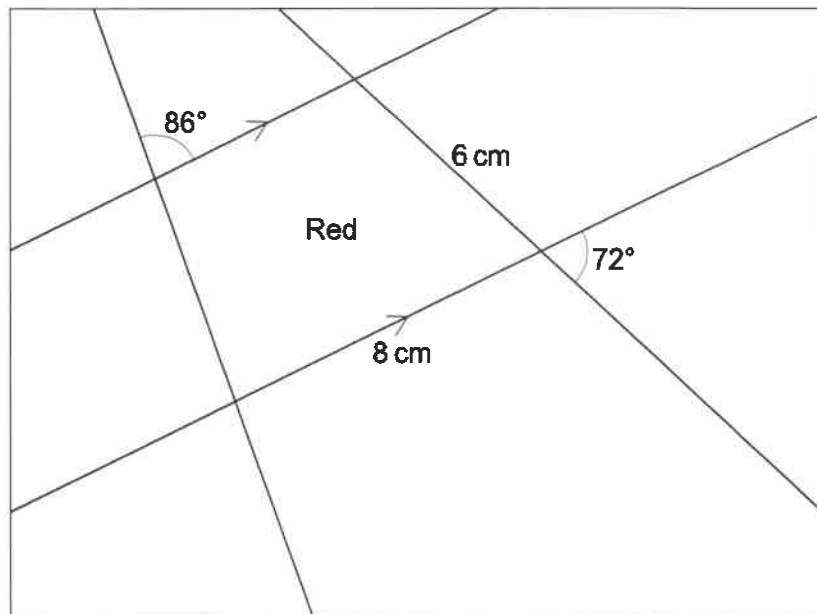
Diagram not drawn to scale

Kari now sketches a diagram of the red piece of the jigsaw, which is shown below.
She shows some extended lines and indicates all the angles she needs to find.

Diagram not drawn to scale

(3310U10-1)

100
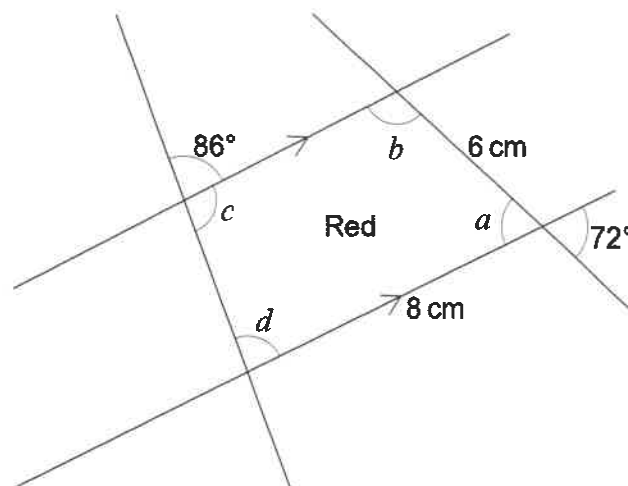
Find the 4 missing angles in the red piece of the jigsaw.
Draw the red piece of Kari's jigsaw accurately.
One side has been drawn for you.

[6]

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a = ... °, b = ... °, c = ... °, d = ... °

Space for drawing the red piece of jigsaw:

8 cm

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Turn over.
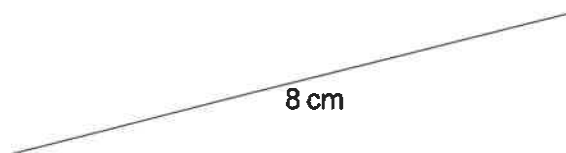
9. A number of paths are to be laid to join three new office buildings.
A sketch of the architect's plan is shown below.

New office building

New office building

New office building

b

a

72°

67°

21°

d

c
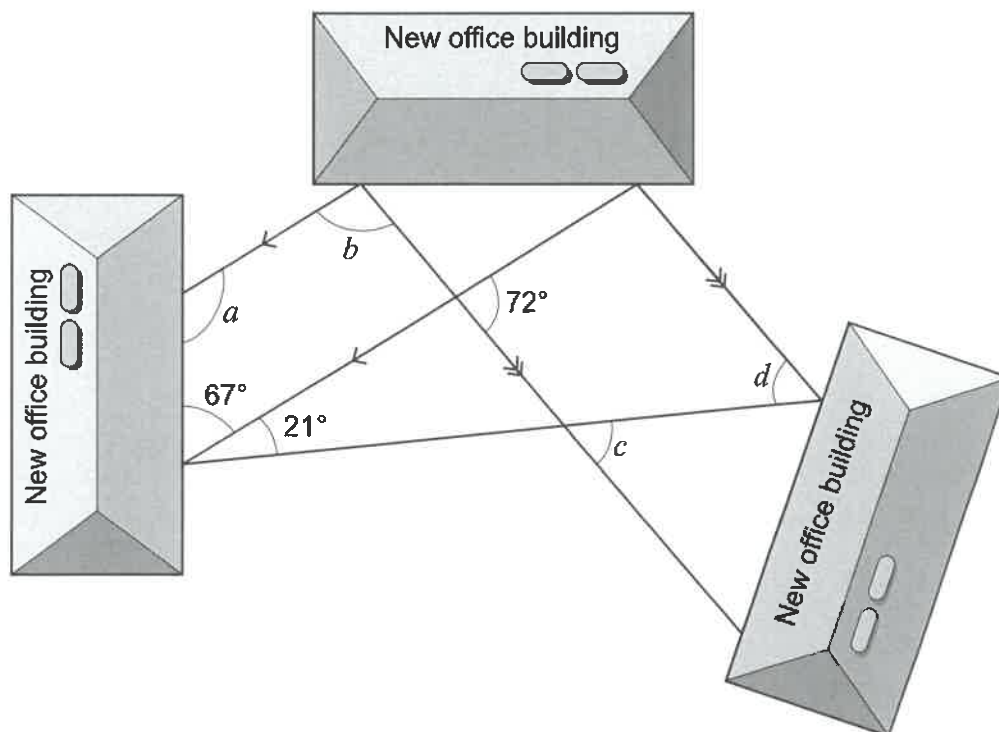
Diagram not drawn to scale

The architect has shown a number of the angles in his planning for the new paths.

Calculate the size of each of the angles *a*, *b*, *c* and *d*. [4]

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a = ... °   *b* = ... °   *c* = ... °   *d* = ... °

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102

12. The diagram below shows a sketch of the existing gas pipes that run to and from Tŷ Gwyn. It also shows a proposed 180 m gas pipe which is to be laid to provide gas to Cae Nia. The proposed pipe bisects the angle formed by the existing pipes at Tŷ Gwyn.

Cae Nia

180 m

Tŷ Gwyn
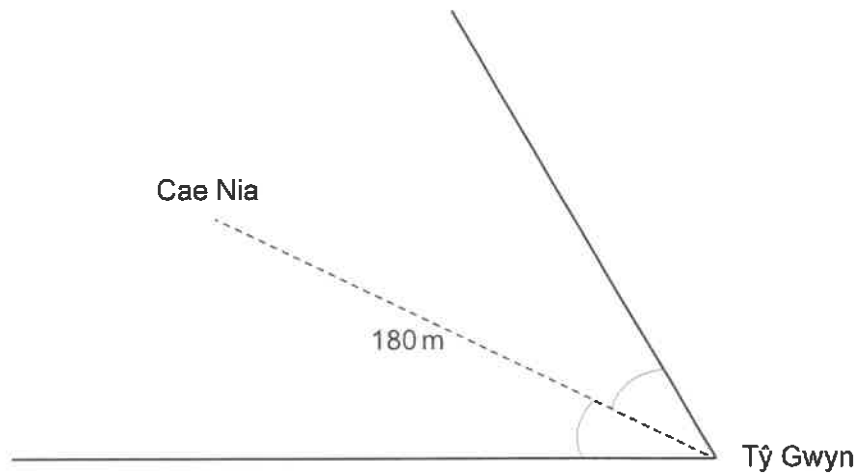
Diagram not drawn to scale

Complete the scale drawing below to show the proposed pipe.
- You must use a pair of compasses to construct the angle bisector.
- Use a scale of 1 cm to represent 20 metres. [3]

Tŷ Gwyn

END OF PAPER

103

(3310U10-1)

7. A survey was carried out to find how often teenagers buy DVDs.

The following two questions were asked in a questionnaire.

Q1.   Where do you live?

Q2.   How often do you buy DVDs?

Never	*1-10 times*	*10-15 times*	*More than 15 times*
☐	☐	☐	☐

(a)   For each question give **one** reason why it is **not** suitable.   [2]

Q1.   ....

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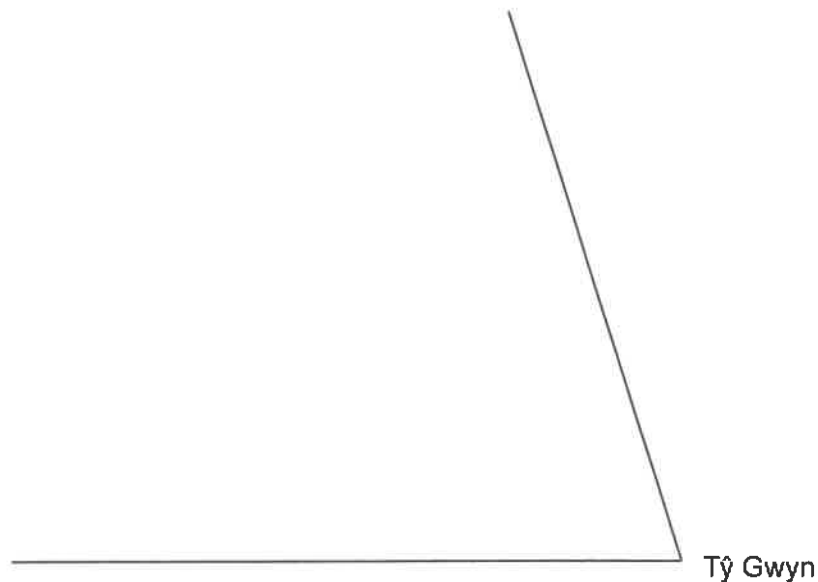
Q2.   ....

....

(b)   The survey was carried out by leaving copies of the questionnaire on the DVD shelves in a supermarket.

Give **one** criticism of how the survey was carried out.   [1]

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104
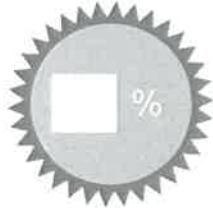
(b) David aims to raise £200 for his chosen charity.
He set up a "Sponsor me please" page on social media.
This is David's page at the end of the first week.
The percentage has been blanked out.

David's Page
David is raising money for a charity.
Please help him to reach his target of £200.

Current total raised
£32.00

☐ %

Donate

(i) How much more money did David need in order to reach his target? [1]

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(ii) David thought he had raised more than 15% of his target.
Was he correct?
Show your working. [2]

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(iii) After two weeks, David had raised 57% of his target.
What percentage of his target was still to be raised? [1]

....

(3310U20-1)

105

(c) David and Gwyn kept a training record as they prepared for the charity event.
They recorded the number of miles that they ran each day.
The mileage for week one is shown below.

	Mon	Tue	Wed	Thur	Fri	Sat	Sun
David	1	8	2	1	7	1	5
Gwyn	1	4	1	6	2	1	12

Gwyn thinks that his average daily mileage is greater than David's.
Explain why using the **medians** would not show this.
You must show all your working. [3]

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106

(3310U20-1)

Turn over.

Examiner only

5. Luigi lives in south Wales.
Rosina lives in west Wales.
For each of the first 65 days of 2017, they recorded whether or not it rained.

Luigi recorded that it rained on 28 of these days.
Rosina recorded that it rained on 40% of these 65 days.

Luigi says,

'For the first 65 days of 2017, there were more days with rain where I live than where Rosina lives.'

Is Luigi correct?
You must show all your working. [3]

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(3310U20-1)

Examiner only

6. Suzanna and her 2 friends are studying at Aberystwyth University. They rent a 3-bedroom house together.

The 3 friends share the cost of the rent equally between them.

In April, the rent was £720 per month.
In October, the rent is to be increased by 15%.

How much rent will Suzanna pay in October? [4]

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108

(3310U10-1)

Examiner only

8. A newspaper report claimed the following:
- 12% of the world population is left-handed.
- Twice as many men as women are left-handed.
- 30% of the world population is mixed-handed.
  Mixed-handed people prefer to use the left hand for some tasks and the right hand for others.
- It is very rare to be ambidextrous, that is being able to do all tasks equally well with either hand.

In 2011, Wales had a population of 3 063 000.
In 2014, Wales had a population of 3 092 000.

(a) Calculate the number of left-handed people living in Wales in 2011.
State what assumption you have made. [3]

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Assumption:

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(b) In 2011, Wales had a population of 3 063 000.
1 559 000 of these people were women.

In 2011, what **percentage** of the population of Wales were **men**?
Give your answer correct to 1 decimal place. [3]

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109

(c) How many mixed-handed people do you think were living in Wales in 2014?
You must show your working.
Give your answer to the nearest 1000 people. [2]

(d) A country of 6 million people meets all the claims given in the newspaper report.
8% of the women in this country are left-handed.

There are 3 million men living in this country.
How many left-handed men would you expect there to be in this country? [4]

END OF PAPER

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110

14

8.

Mr and Mrs Blanc have 3 children, Valerie, Theo and Anton. The family is visiting Wales.
Valerie and Theo are 14-year-old twins.
Anton is 2 years old.

They visit Castell Gwynhir ruins and gardens.

A copy of the entrance board is shown below.

Castell Gwynhir ruins and gardens		
	Standard charge	Charge with 10% contribution towards improvements
Adult	£5.60	£6.40
Child – age 3 to 16	£2.30	£2.53
Child – under 3	Free	Free

(a) The family decides to pay the standard charges to visit Castell Gwynhir.
How much change will they get from £20?
You must show all your working. [3]

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111

F Num wi June 2018

(b) Theo looks at the charges with a 10% contribution towards improvements.

Theo says,
'The adult charge with an extra 10% is not right. It is too high!'

By how much is the adult charge too high?
You must show all your working. [3]

(c) The gardens at Castell Gwynhir cover an area of 714 000 m².

Water ponds cover $\frac{2}{7}$ of the area of the gardens.

Calculate the area covered by water ponds. [2]

Area covered by water ponds is .... m²

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F Num U2 Nov 2016

10. *(a)*

> Railcard for 16 to 25 year olds
> £30 for a year
> Get $\frac{1}{3}$ off all your rail travel

Nerys and Eleri are sisters.
Nerys is 22 years old and Eleri is 27 years old.

The two sisters live in Holyhead.
Their aunt lives in Milford Haven.
They travel by train to visit their aunt 3 times a year.

Nerys buys a 16-25 Railcard to use for these journeys.
They buy single rail tickets for each journey.
The cost of a **single** rail ticket from Holyhead to Milford Haven is £84.50.
The journey home from Milford Haven also costs £84.50 per ticket.

In a year, how much less does Nerys pay than Eleri for the journeys to Milford Haven and back?
You must show all your working. [5]

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113

(3310U20-1)

(b)   Cristiano is 22 years old.
He sometimes travels from Rhyl to Llandudno Junction by train.
The cost of a single rail ticket from Rhyl to Llandudno Junction is £7.80.

Nerys advises Cristiano to buy a Railcard.
Cristiano says,

> It is not worth paying £30 for the Railcard.

How many times in a year would Cristiano have to travel to make it cheaper for him if he buys a Railcard?   [3]

11. Loretta is paid in euros.
     She is checking her tax bill for last year.

     The tax rates last year were as follows:

     • No tax on the first €3500 of earnings
     • Earnings above €3500 and up to €10 500: taxed at a rate of 25%
     • Earnings above €10 500: taxed at a rate of 35%

     Last year, Loretta's total earnings before tax were €34 500.

     How much tax did Loretta pay in total?
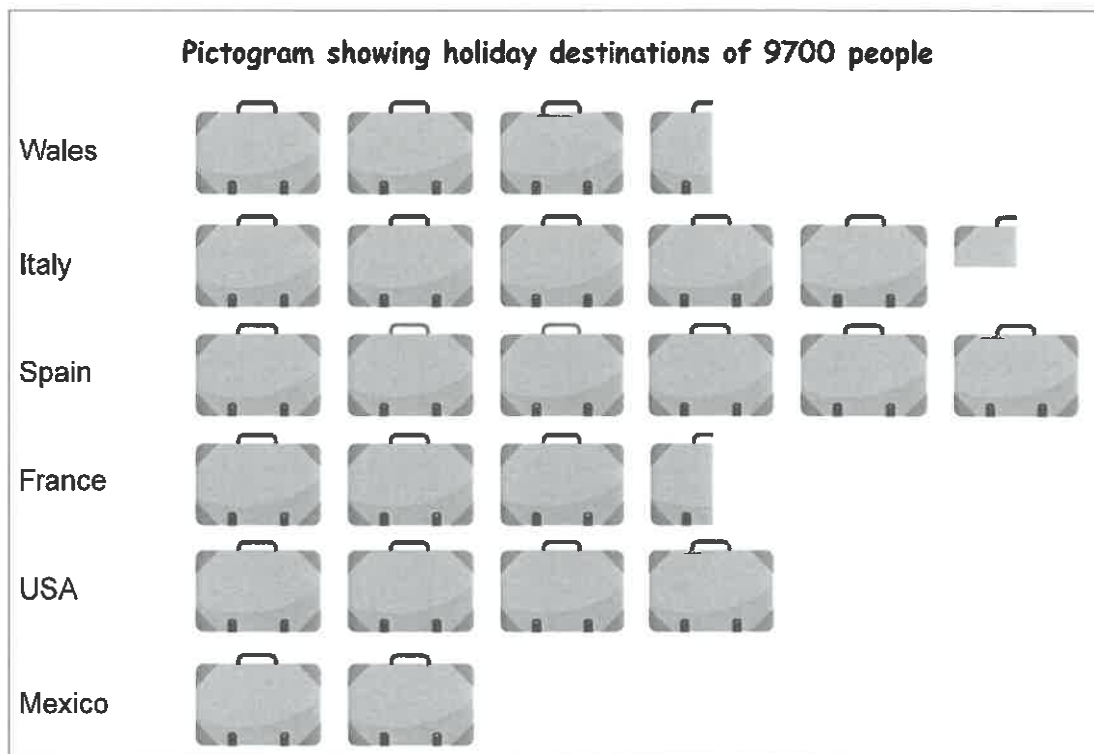   You must show all your working.   [6]

     Tax paid = € ....

     END OF PAPER

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115

F Num U2 June 2018

11. Mena is going on holiday.
She hasn't decided where to go yet.
In a travel brochure, Mena sees a pictogram showing the
holiday destinations of 9700 people.

Pictogram showing holiday destinations of 9700 people

Wales	
Italy	
Spain	
France	
USA	
Mexico	

(a) Complete the key for the pictogram. [3]

represents .... people

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116

(b)   Mena goes on holiday to France.
       She takes 590 euros with her on holiday.

       Mena only spends 40% of her euros.

       When she returns from holiday, she exchanges her remaining euros for pounds.
       The exchange rate is £1 = 1.18 euros.
       How many pounds does Mena receive?   [4]
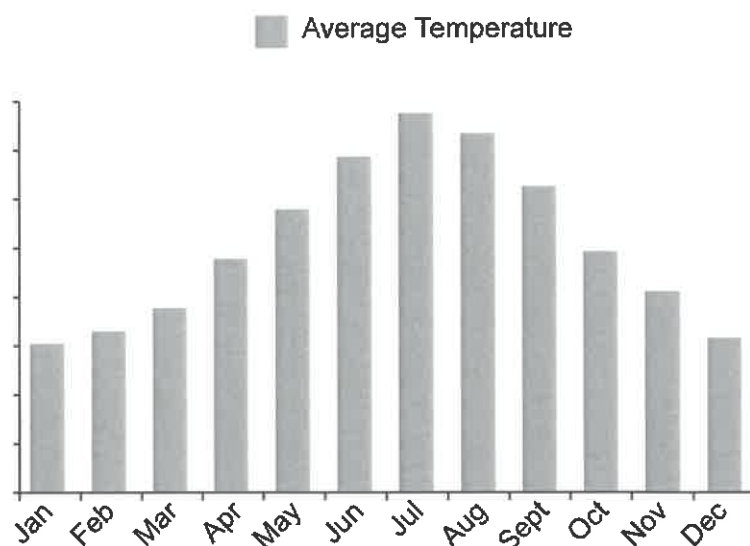
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(c) Evan sees this graph on a website.
It shows information about the weather in Larnaca.

Give **one** criticism of this graph. [1]

....

....

....

....

(d) Evan sees this information about the average monthly rainfall, in mm, in Larnaca.

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Rainfall (mm)	78	64	34	19	7	2	1	1	6	18	66	94

(i) Which of the words below best describes the chance that it will rain in Larnaca on any given day in **August**?
Circle your answer. [1]

certain   likely   even chance   unlikely   impossible

(ii) Which month has an average rainfall closest to **7 centimetres**?
Circle your answer. [1]

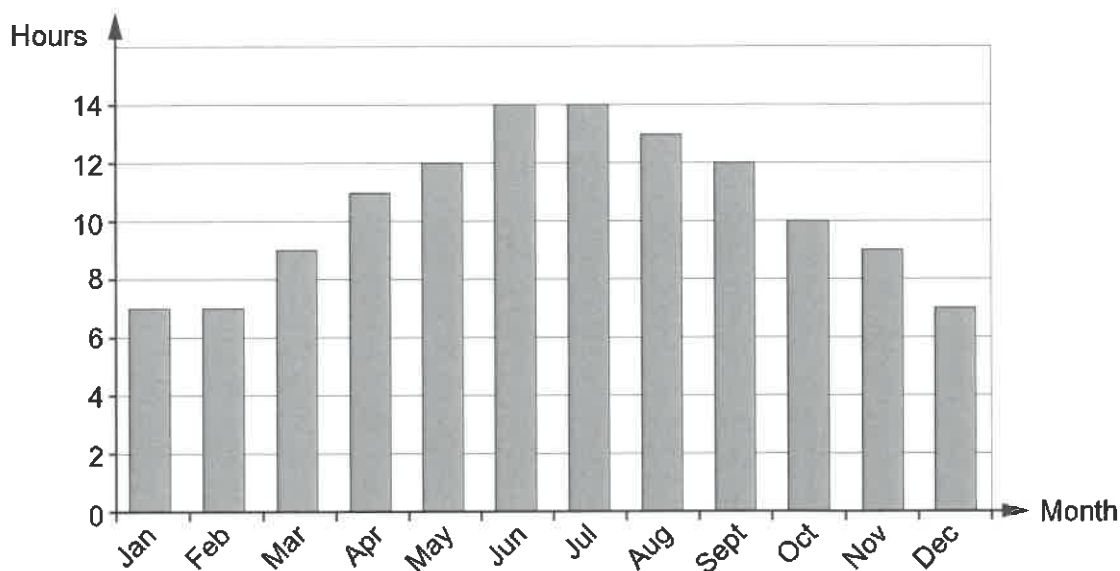January   February   May   September   November

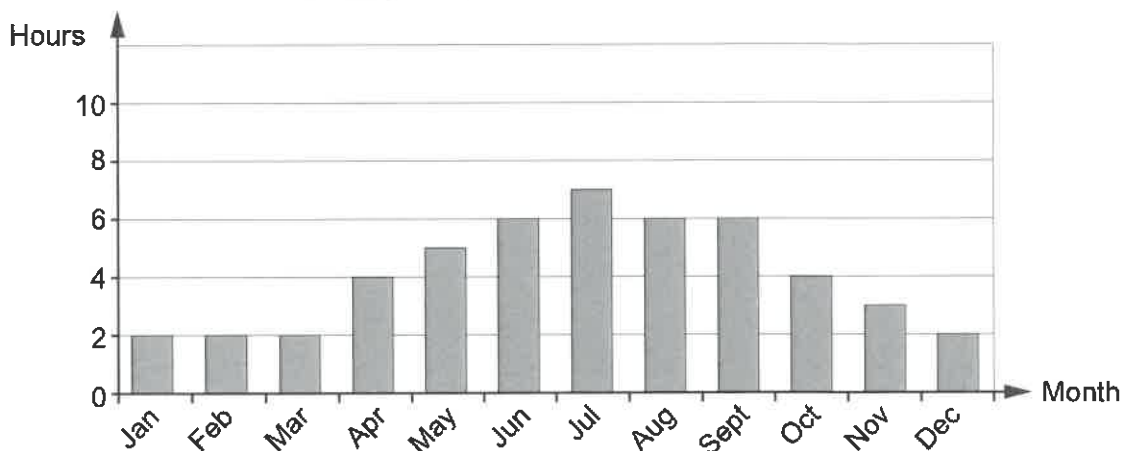© WJEC CBAC Ltd.   (3310U20-1)   **Turn over.**

Examiner only

(e)   Evan uses internet graphs to compare the average daily sunshine hours in Cardiff and Larnaca.

Average daily sunshine hours in Larnaca

Average daily sunshine hours in Cardiff

(i)   In Larnaca, which month had an average of 11 daily sunshine hours?   [1]

Month ....

(ii)   Find the number of **extra** average daily sunshine hours in Larnaca compared with Cardiff in June.   [2]

....

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119

2. A flight to New York had 450 passengers.
   A survey was completed to see what the 450 passengers did for most of their time during the flight.
   - 120 passengers watched films
   - 60 passengers played games
   - 130 passengers listened to music
   - 30 passengers read a book
   - The rest slept.

   Draw a pictogram to represent what the 450 passengers did for most of their time during the flight to New York.   [5]

   Key: (☺) represents 20 passengers.

Time spent							
Watching films							
Playing games							
Listening to music							
Reading a book							
Sleeping							

....
....
....
....

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120

Turn over.

2. Jane carried out a survey.
She asked 40 people to choose their favourite TV channel.
Their answers are shown below.

BBC1	S4C	ITV 1	BBC1	Channel 5
ITV 1	BBC2	Channel 5	ITV 1	BBC1
Channel 5	BBC1	Channel 5	ITV 1	S4C
S4C	ITV 1	BBC2	BBC1	Channel 5
BBC2	BBC2	ITV 1	ITV 1	BBC1
BBC2	ITV 1	S4C	BBC1	ITV 1
BBC1	S4C	ITV 1	ITV 1	BBC1
ITV 1	Channel 5	BBC1	S4C	Channel 5

(a) Draw a **vertical line diagram** to display Jane's data.
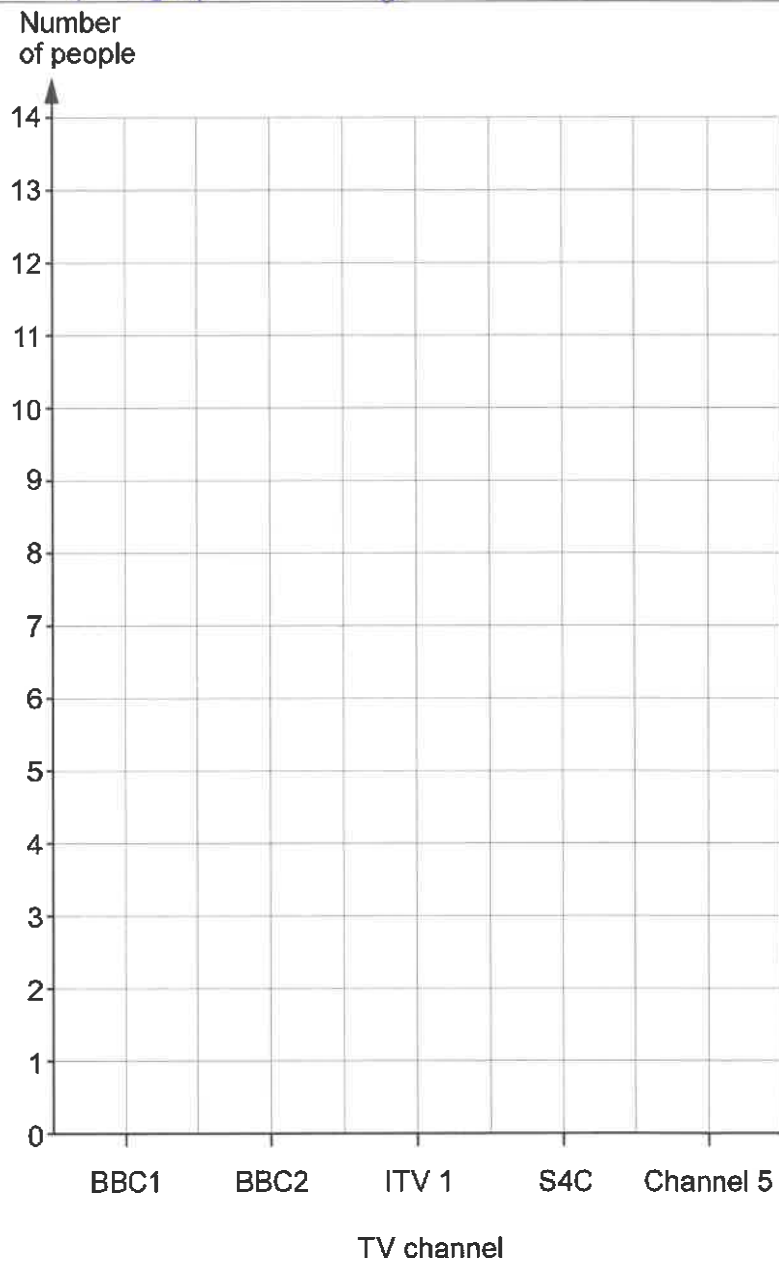Use the square grid on the opposite page. [4]

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121

7

Examiner only

Number of people

TV channel

(b)   How can you check that you have included all of Jane's data?   [1]

....

....

....

(c)   What is the modal TV channel?   [1]

....

122

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Turn over.

3310U101
07

Examiner only

3. The number of people able to vote at a National Assembly for Wales election in 2014 is given below.

Region	Number of people
South Wales	1 358 971
Mid Wales	423 357
North Wales	471 891
Total	

(a) What is the total number of people able to vote? [1]

....

....

(b) The South Wales region is split into South West, Central and South East Wales.

South Wales region	Number of people
South West	395 019
Central	496 249
South East	
Total	1 358 971

What is the total number of people able to vote in South East Wales? [2]

....

....

(3310U20-1)

123

F Num 42 Nov 2016
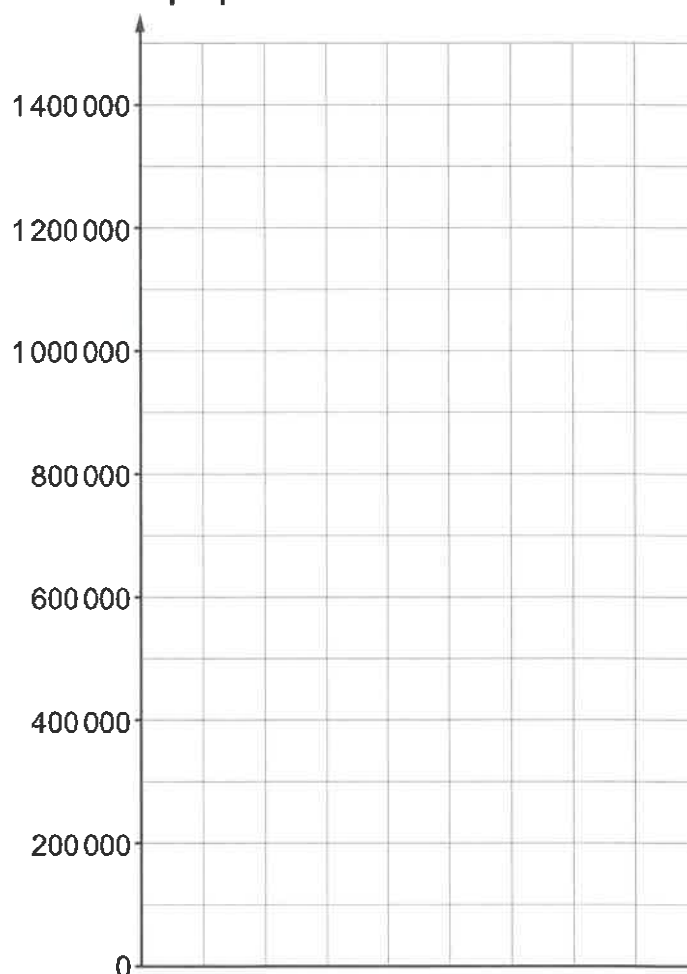
(c) The number of people able to vote at a National Assembly for Wales election in 2014 is given below, correct to the nearest hundred thousand.

Region	Number of people
South Wales	1 400 000
Mid Wales	400 000
North Wales	500 000

Use the squared paper below to draw a suitable bar chart to represent this data. [2]
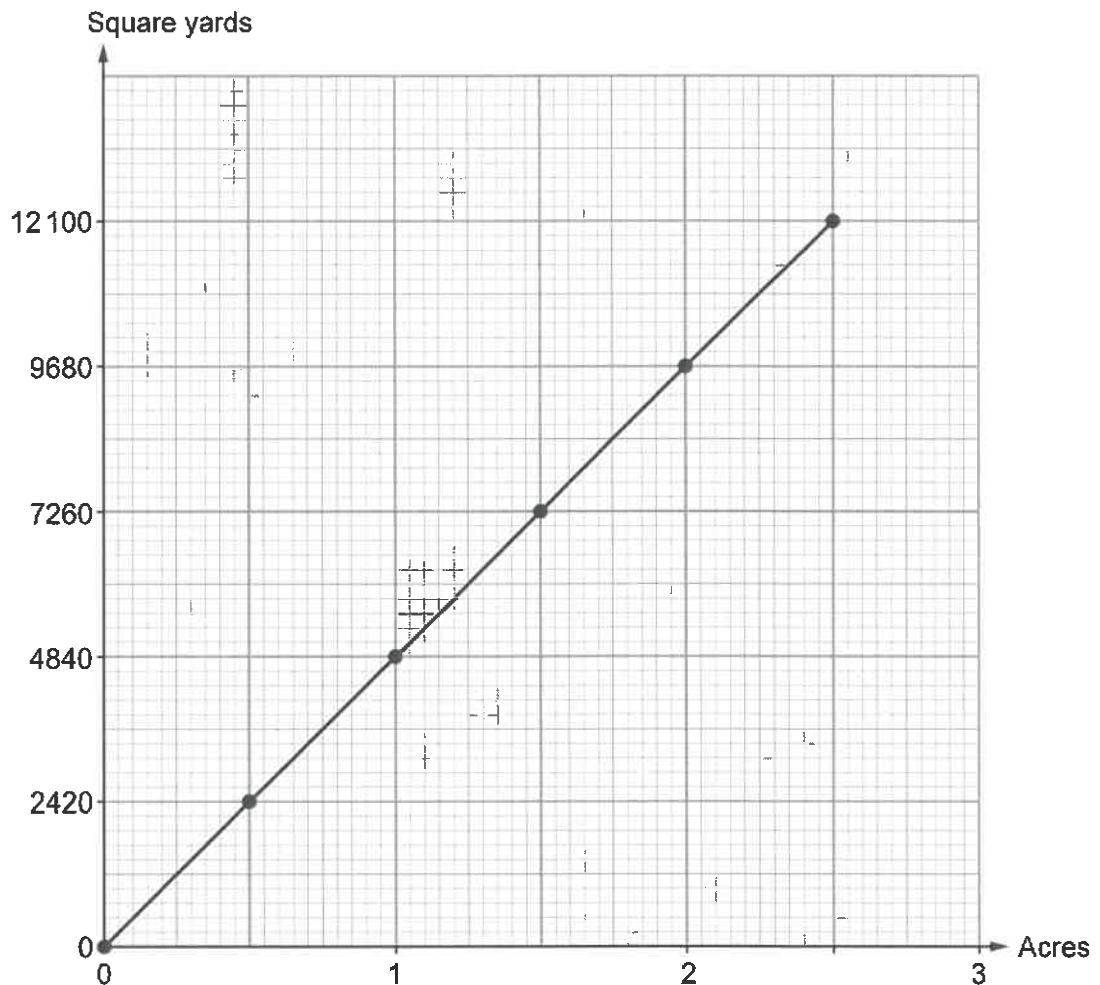
Number of people

(3310U20-1)

124

Turn over.

5. Marcus is a farmer.
He has his own conversion graph to change between acres and square yards.

Square yards

Complete each of the following statements.

(a) 3 acres is equal to .... square yards. [1]

....

....

....

(b) 5·5 acres is equal to .... square yards. [2]

....

....

....

(3310U10-1)

125

F Num U2 Nov 2017

5. The Headteacher of Ysgol Maes Newydd gave *option forms* to all Year 9 pupils.

The form asked which foreign languages the pupils would like to study in Year 10.

There were 4 languages listed on the form: French, German, Spanish and Mandarin.
The pupils could select as many of the languages as they wished.
All pupils completed and returned the *option form*.

The Headteacher displayed the results in a Venn diagram, as shown below.
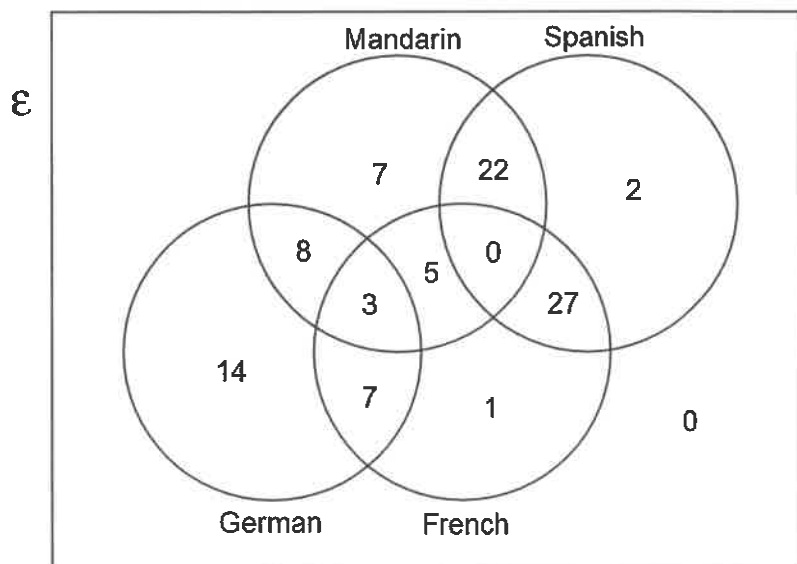
(a) How many pupils did not select at least one of the four languages?
Circle your answer. [1]

      0   1   3   5   7

(b) How many pupils are there in Year 9?
Circle your answer. [1]

    92   94   96   98   100

(c) How many pupils selected only one language? [1]

(3310U20-1)

12b

Examiner only

(d) The Headteacher can offer only 2 out of these 4 languages in Year 10.
She writes the timetable so that as many as possible of the pupils who chose 2 languages are able to study those 2 languages.
Which **two** languages will the Headteacher offer in Year 10?
You must show all your working and give a reason for your answer. [2]

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(3310U20-1)

127

Turn over.

6. Lloyd has carried out a survey in his school.
He surveyed 300 pupils.
Below is a section from his questionnaire.

---

1. Which year group are you in? ....

2. Do you like the colours of the school uniform? ....

3. What is your favourite colour? ....

(a) Afterwards, Lloyd thinks he should have given option boxes in questions 1 and 2.
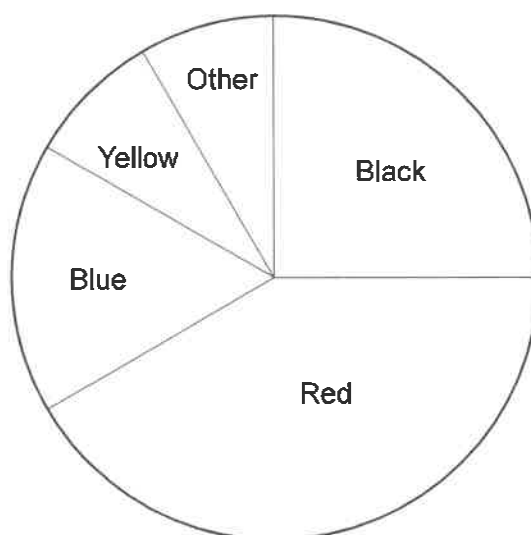What could these option boxes be? [2]

Question 1:

....

....

Question 2:

....

....

(b) A pie chart displaying the results from question 3 of the questionnaire is shown below.

(i) Which colour was chosen by 75 pupils as their favourite colour?
Circle your answer. [1]

Black   Red   Blue   Yellow   Other

....

(3310U20-1)   128

Examiner only

(ii) What fraction of the pupils said that blue was their favourite colour?
Give your answer in its simplest form. [3]

....

....

....

7. (a) What is 3 hours 12 minutes in hours?
Circle your answer. [1]

3·102 hours   3·12 hours   3·15 hours   3·2 hours   3·25 hours

....

....

(b) The first 40 miles of a journey took 1 hour 15 minutes.
The remaining 80 miles were completed in 2 hours 15 minutes.
Calculate the average speed, in mph, of the 120-mile journey. [3]
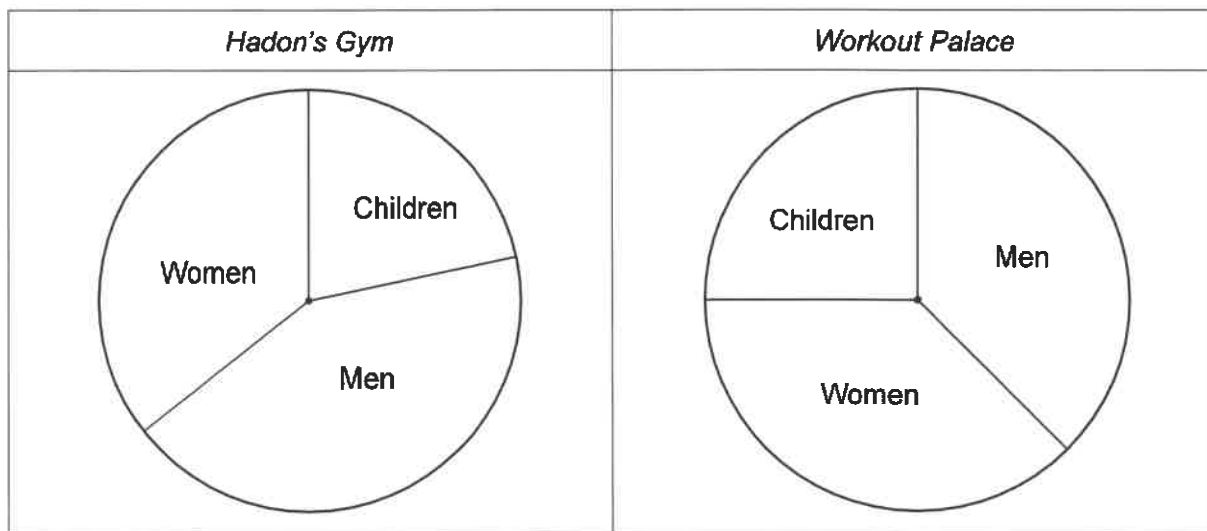
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129

6. Tomos is looking at gym memberships for *Hadon's Gym* and *Workout Palace*. Each of these gyms displays its membership in a pie chart.

Hadon's Gym	*Workout Palace*

(a) About what percentage of the members at *Hadon's Gym* are children? Circle your answer. [1]

10%   20%   30%   40%   50%

(b) Which of the following is the best estimate for the percentage of the members at *Workout Palace* who are women? Circle your answer. [1]

25%   28%   30%   32%   38%

(c) Tomos says,

     'There are more men with membership at *Hadon's Gym* than at *Workout Palace*.'

Is Tomos **certain** to be correct? You must give a reason for your answer. [1]

Yes ☐   No ☐

(3310U20-1)   130   **Turn over.**

F Num U2 June 2018

7. In a survey, 720 students were asked if they preferred to take part in *gym activities*, *team sports* or *individual sports*.
They were asked to choose just one of these options.
The results are displayed in the pie chart below.

(a) How many students selected *individual sports*?
Circle your answer. [1]

    90   180   270   405   540

(b) Carwyn plans to split *team sports* on the pie chart into *football* and *other team sports*.

Of the students who selected *team sports*, $\frac{2}{5}$ said their preferred team sport was *football*.

What angle should Carwyn draw to represent *football*? [3]

Angle is .... °

(c) 720 students took part in the survey. Only 45% were **female**.
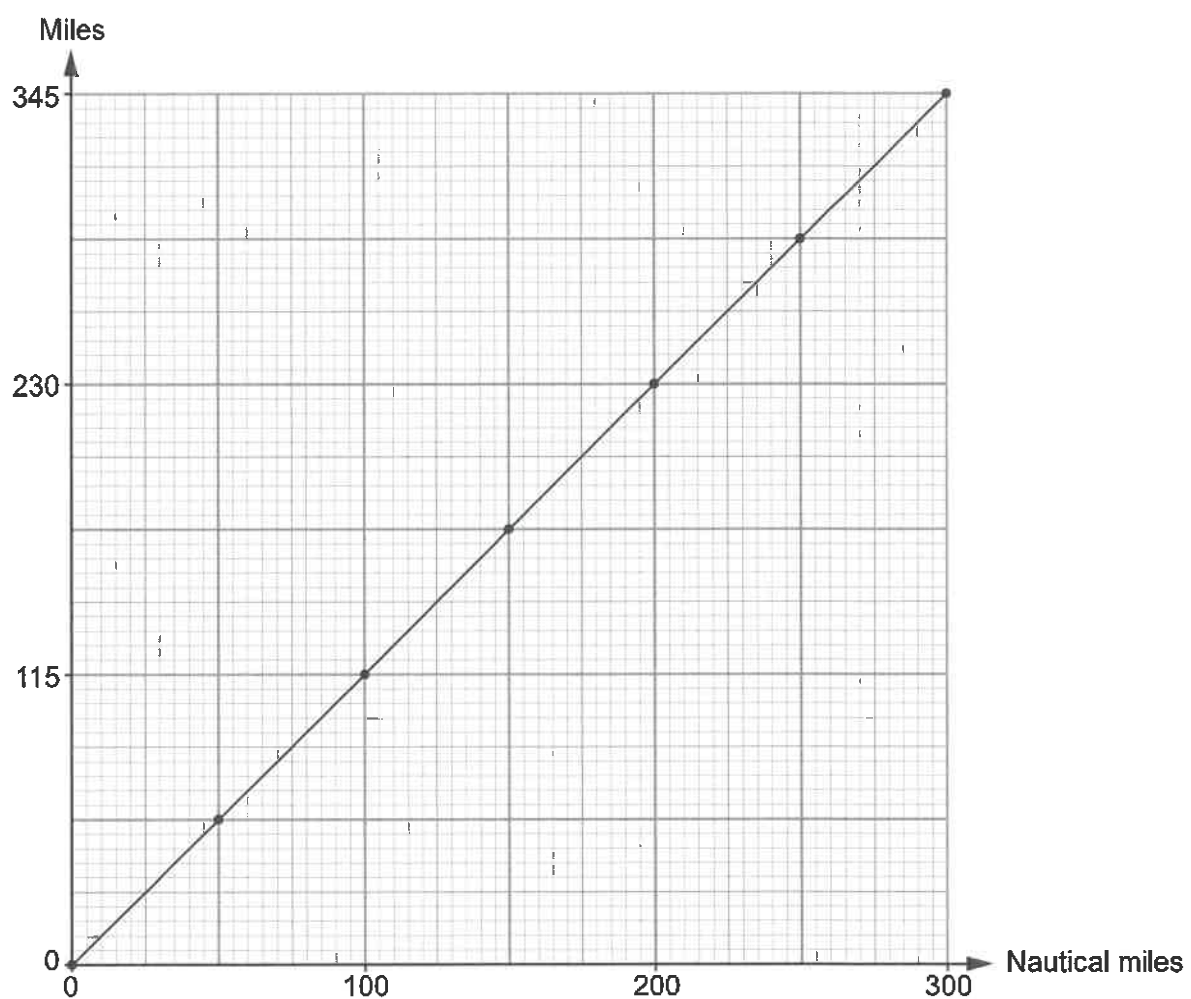How many **males** took part in the survey? [2]

Number of males is ....

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(3310U20-1-R1)

13|

F Num U1 June 2018

7. Maxim is doing a project on shipping.
He draws and uses his own conversion graph to convert between nautical miles and miles.

(a) What is 50 nautical miles converted into miles?
Circle your answer. [1]

55   56·5   57·5   58·5   59·5

(b) Complete the following statement.

800 nautical miles is equal to .... miles. [2]
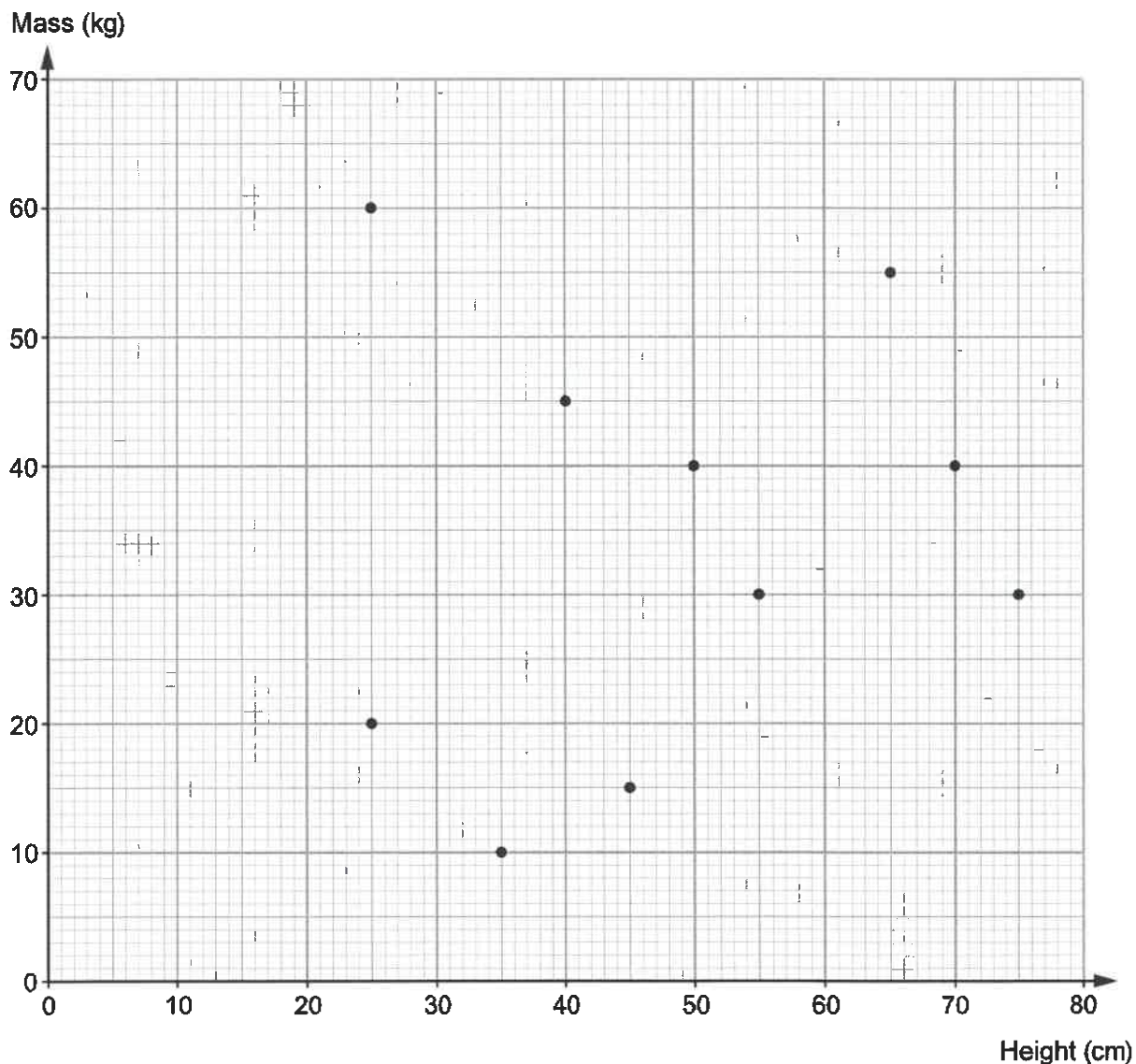
132

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F Num U2 June 2017

7. A group of friends measured the heights and masses of their pets.
The scatter diagram shows the results.

Mass (kg)

Height (cm)

(a) Describe the correlation shown by this scatter diagram. [1]

....

(b) The friends notice that the tallest pet has the same mass as another pet.
What is the height of this other pet? [1]

.... cm

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133

9. *(a)* 36 000 people took part in a survey to find out their favourite type of TV programme. The pie chart shows the results.

(i) How many people chose *Drama* as their favourite type of TV programme? You must show your working. [3]

....

....

....

....

(3310U20-1)

134

f Num 42 NOV 2016

(ii) Twice as many women as men chose *Talent shows* as their favourite type of TV programme.
Calculate how many women chose *Talent shows*.
You must show your working. [3]

(b) 1000 people were asked,

'Should news programmes include details of the weather?
Yes or No?'

70% of the people answered 'yes'.
A pie chart is to be drawn to represent the answers to this question.
What size would the angle be to represent the answer 'yes'? [2]

Angle representing 'yes' is .... °

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(3310U20-1)

135

Turn over.

18

9. *(a)* Students are taking tests in English and Welsh.
The English test is marked out of 80.
The Welsh test is marked out of 70.

    (i) Dyfed scores 35 in his English test.
    Estimate Dyfed's score as a percentage.
    Circle your answer. [1]

      4%   20%   23%   44%   51%

    (ii) Liam scores 22 in his Welsh test.
    Estimate Liam's score as a percentage.
    Circle your answer. [1]

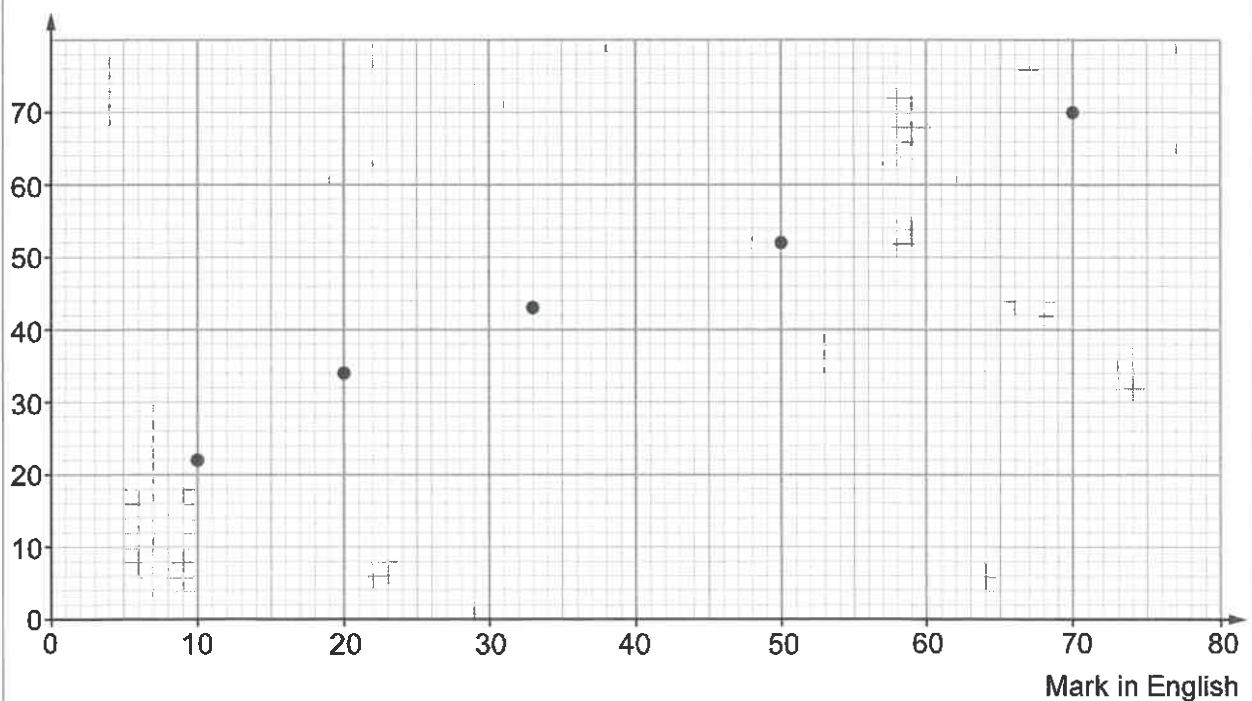   0·3%   3%   22%   31%   40%

(b) Rowena states a hypothesis,
'Boys do better than girls in their English tests.'

She displays the test marks for 5 girls and 5 boys in scatter diagrams.
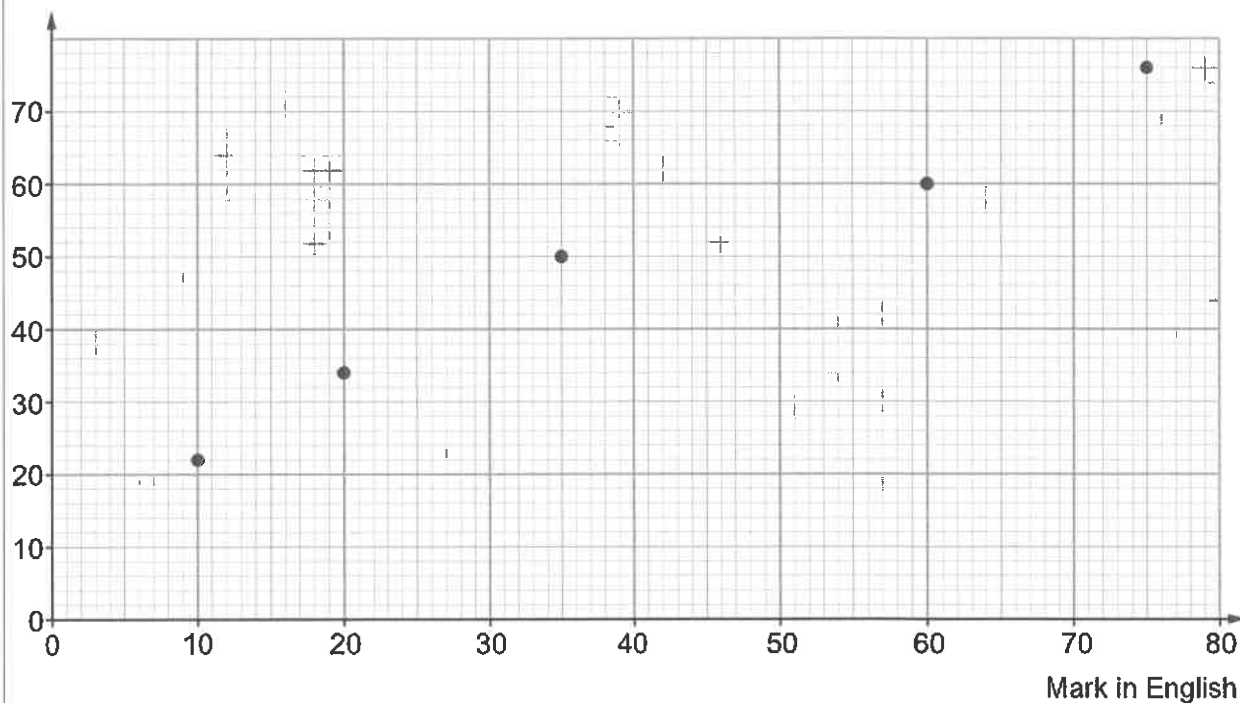
Girls' test results

Mark in Welsh

Mark in English

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136

F Num U1 Nov 2016

Boys' test results

Mark in Welsh

Mark in English

(i) Does the data support Rowena's hypothesis?
You must give a reason for your answer. [1]

....

....

....

....

....

(ii) How could Rowena improve the testing of her hypothesis? [1]

....

....

(c) Draw a line of best fit by eye to estimate how many marks you might expect a **boy** to score in a Welsh test if he scored 50 marks in his English test. [2]

.... marks

(3310U10-1)

13

Turn over.

10. Ffion thinks that the taller you are, the greater your waist measurement will be.
She recorded the height and waist measurements, in centimetres, for 6 people.

Height (cm)	170	152	174	155	178	162
Waist (cm)	82	72	86	74	90	78

(a) Draw a scatter diagram to display these measurements.
Use the graph paper below. [2]

Waist (cm)

Height (cm)

© WJEC CBAC Ltd. (3310U10-1) 136
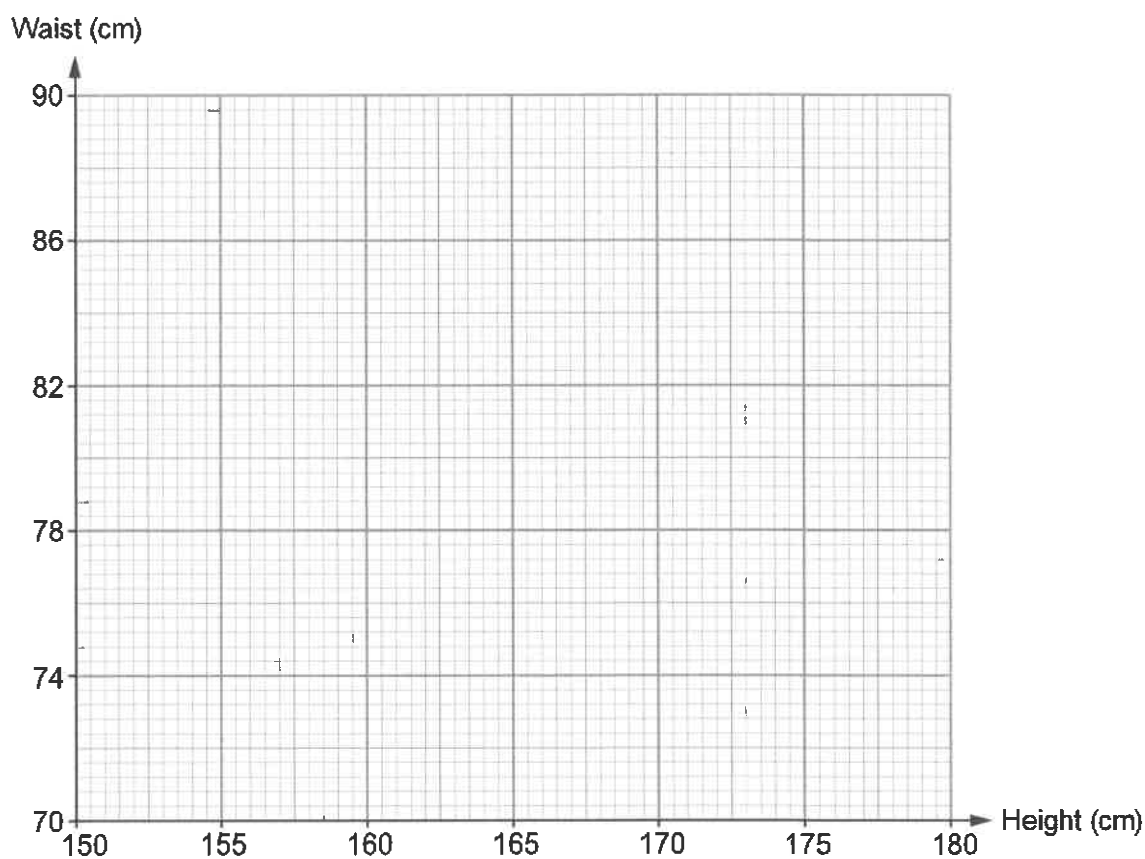
(b)   Look at the results that Ffion has recorded for these 6 people.
Do they appear to support her thinking?
Give a reason for your answer.   [1]

Yes ☐   No ☐   Can't tell ☐

....

....

....

....

(c)   Give **one** reason why using this scatter graph to estimate the waist measurement of other
people is unlikely to give reliable results.   [1]

....

....

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....

....

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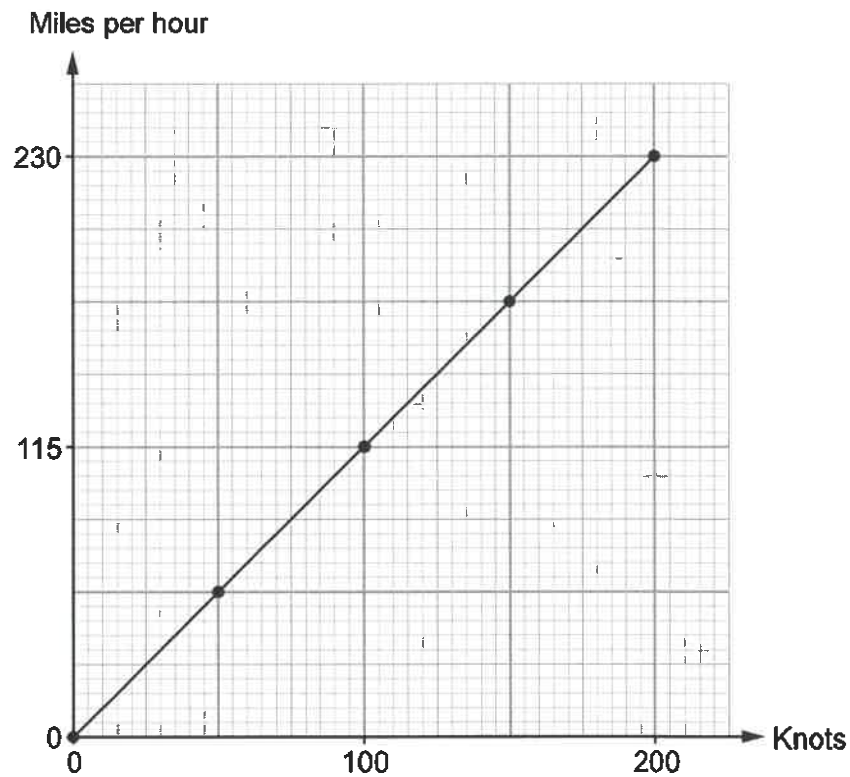
10. Alun has made his own conversion graph to change knots to miles per hour.

(a) Use Alun's conversion graph to write 150 knots in miles per hour. [1]

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160

(b) Nikita thinks Alun's conversion graph may be inaccurate.

Nikita knows that 1000 knots is 1150.779 miles per hour, correct to 3 decimal places.

Convert 20 knots to miles per hour
- using Alun's conversion graph, and then
- using Nikita's values.

Calculate the difference, in miles per hour, between your answers.
Give your answer correct to 2 decimal places.
You must show all your working. [4]

(3310U20-1)

141

Turn over.

F Num U1 June 2018

11. Lekan's parents have complained that they are paying too much towards his mobile phone bill each month.

Lekan decides to ask a number of students in school how much their parents or carers pay towards their mobile phone bills each month.
He displays the results in a scatter diagram. These include his own results.
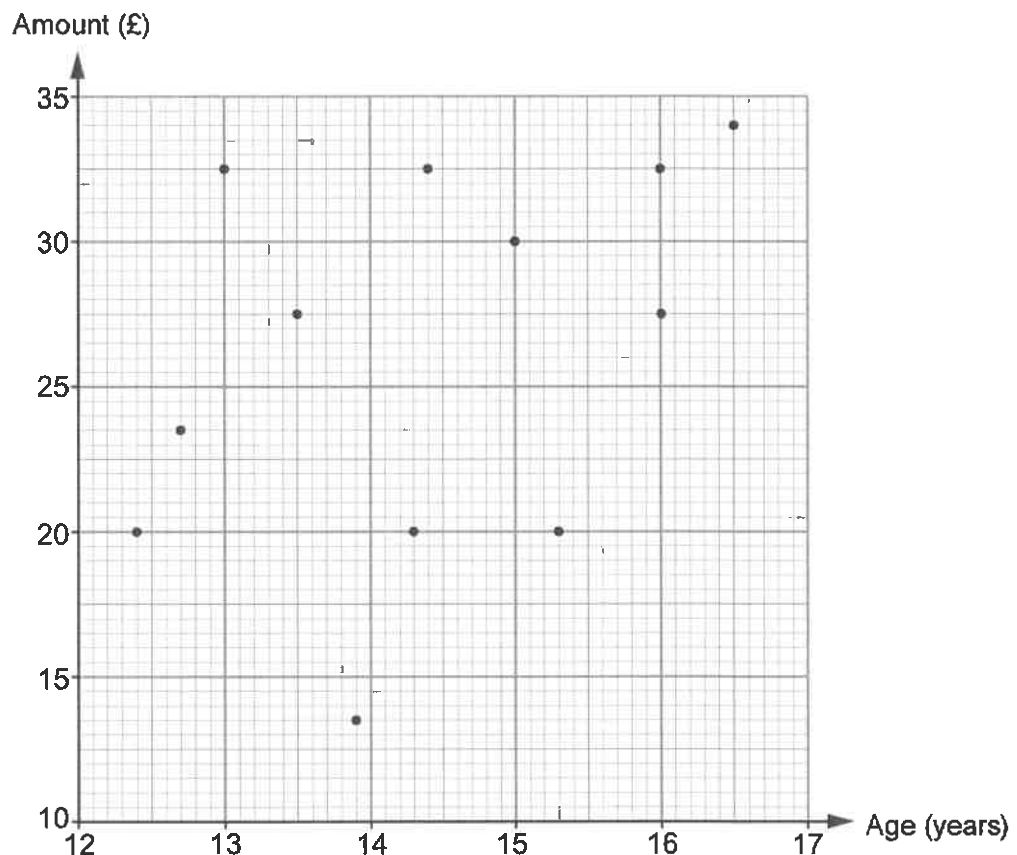
(a) Lekan's parents want to know the names of some of these students.

The two 15-year-old students are Harriet and Eleri.
Eleri is older than Harriet.

Gwilym and Aled's parents each pay £27.50 per month.
Aled is younger than Gwilym.

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(i) Complete each of the following statements. [2]

'Eleri's parents or carers pay £ .... each month towards her mobile phone bill.'

'Harriet's parents or carers pay £ .... each month towards her mobile phone bill.'

(ii) Complete each of the following statements. [3]

'Gwilym is .... years .... months old.'

'Aled is .... years .... months old.'

(b) Lekan's parents pay £32.50 per month towards his mobile phone bill.
He is the youngest of the 3 students who receive £32.50 per month towards their mobile phone bill.

(i) How old is Lekan? [1]

....

(ii) Do you think Lekan's parents are right to complain that they are paying too much towards his mobile phone bill each month?
You must use the scatter diagram to give a reason for your answer. [1]
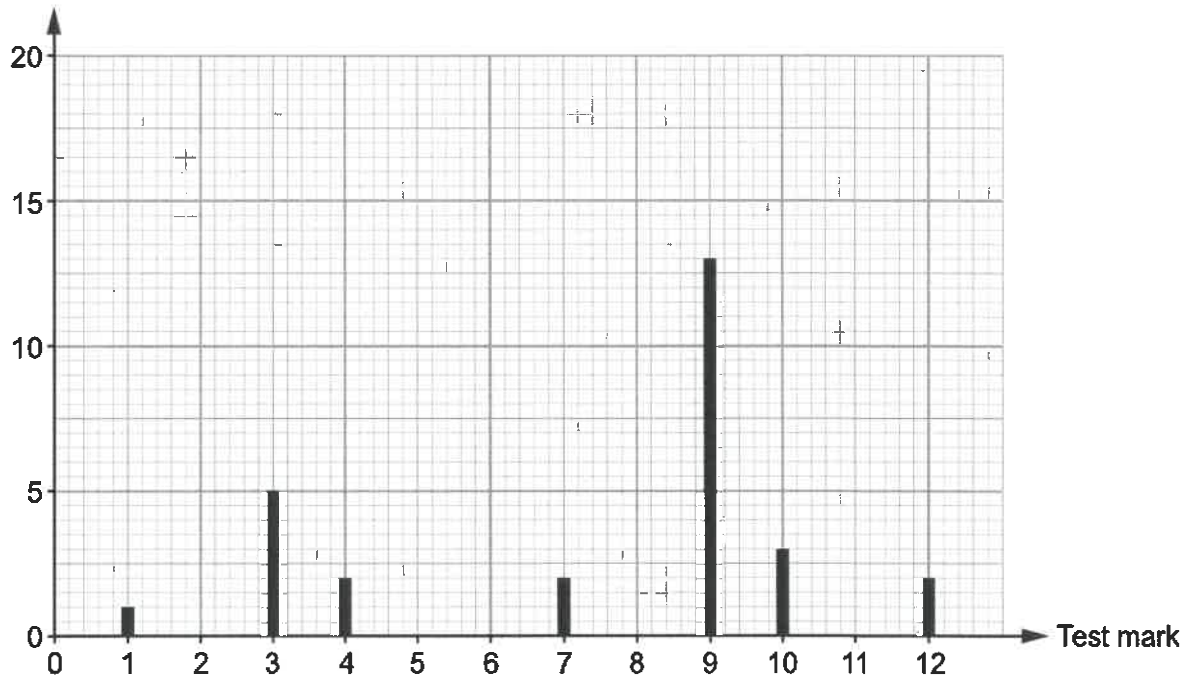
Yes ☐ No ☐

....

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(3310U10-1)

Turn over.

11. *(a)* Miss Rashud gave her Year 9 French class a test on Wednesday. She asked her class to spell 12 different words.

She displays the results as shown below.

Year 9 results

Number of pupils

Test mark

(i) How many pupils scored **more than 9** in the test? [1]

....

(ii) How many pupils are there in Miss Rashud's French class? [1]

....

(iii) What assumption have you made in answering part (ii)? [1]

....

....

(b) Miss Rashud also gave the same test to her Year 10 French class on Wednesday. She asked her class to spell the same 12 words.

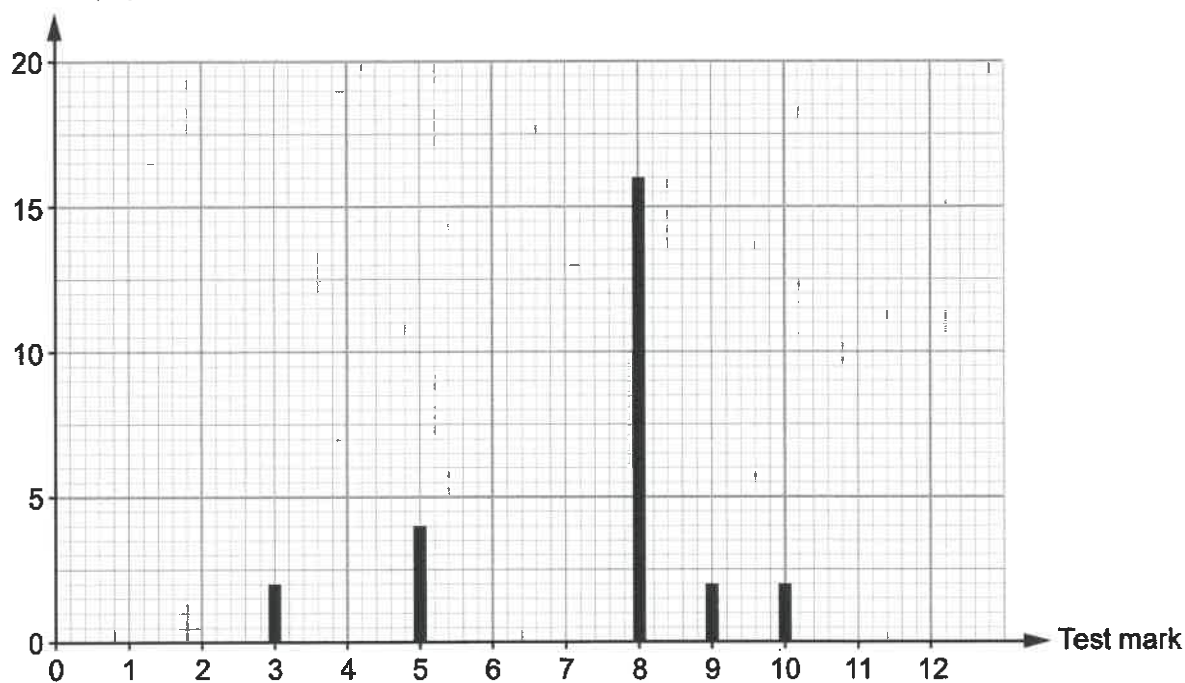She displays the results as shown opposite.

(3310U20-1)

F Num u2 June 2017

Examiner only

Year 10 results

Number of pupils

Catrin looks at the two sets of data Miss Rashud has displayed.
She says,

'Year 10 are better at spelling than Year 9.'

Is Catrin's statement correct?
You must give values to support your answer. [1]

Catrin is correct ☐   Catrin is incorrect ☐

....

....

....

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