Charts & Diagrams (F)
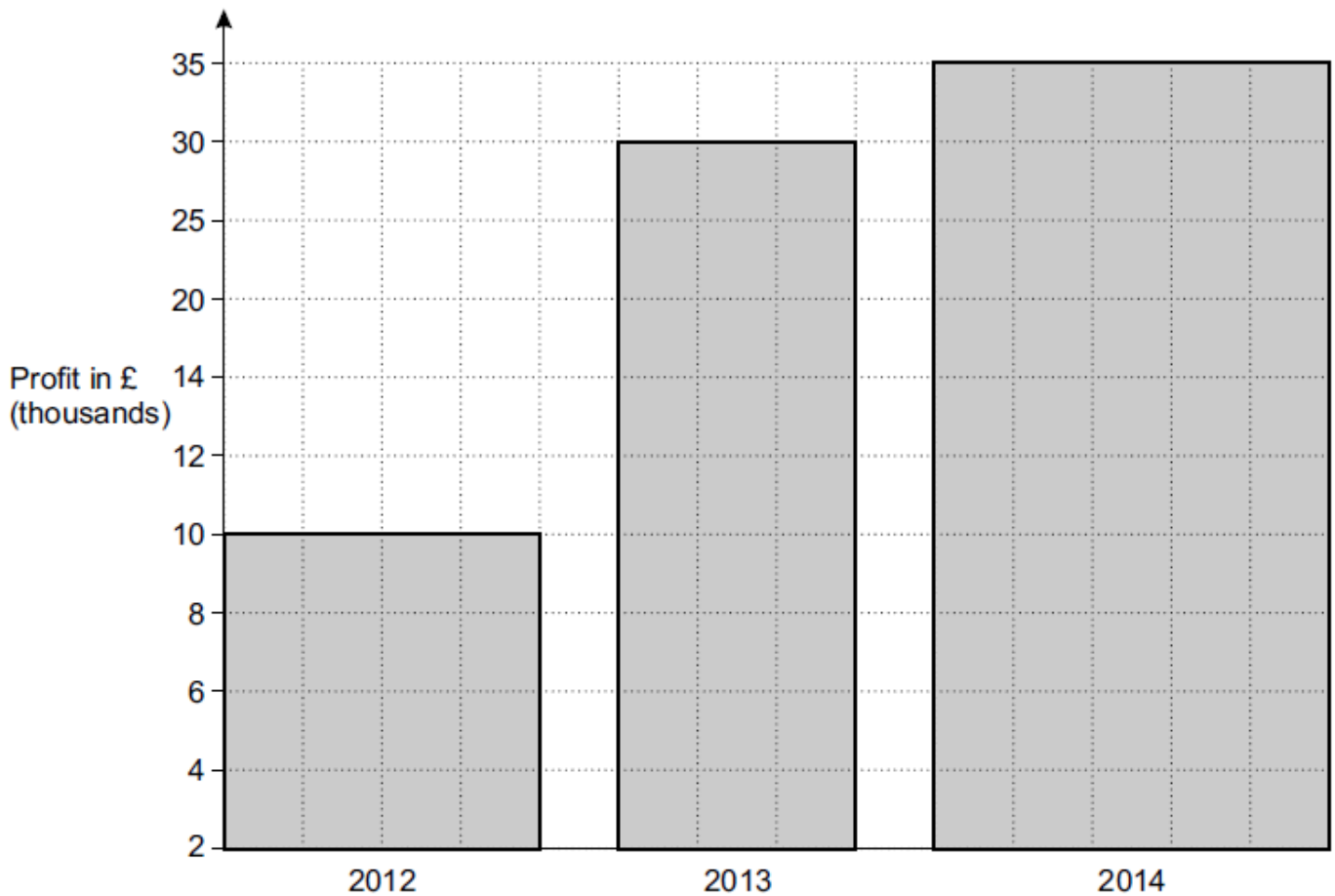
A collection of 9-1 Maths GCSE Sample and Specimen questions from AQA, OCR, Pearson-Edexcel and WJEC Eduqas.

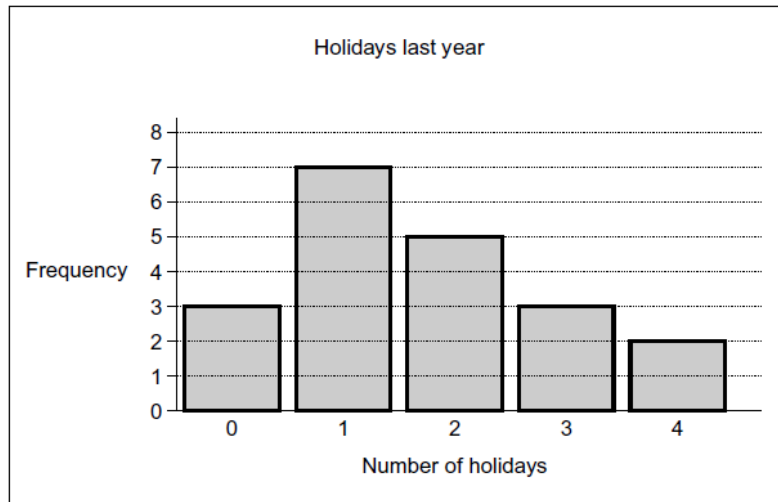| Name:	
Total Marks:	

1. This chart shows a firm's profit for each of 3 years.

Give two reasons why the chart is misleading.

Reason 1

Reason 2

[2]

2. Noelle asks her friends how many holidays they had last year.

Holidays last year

Her results are shown in this bar chart.

(a) Show that Noelle asked 20 friends.

[1]

(b) Noelle says

Based on my sample, I estimate 10% of people in the UK had 4 holidays last year.

Give two reasons why Noelle should not base this estimate on her sample.
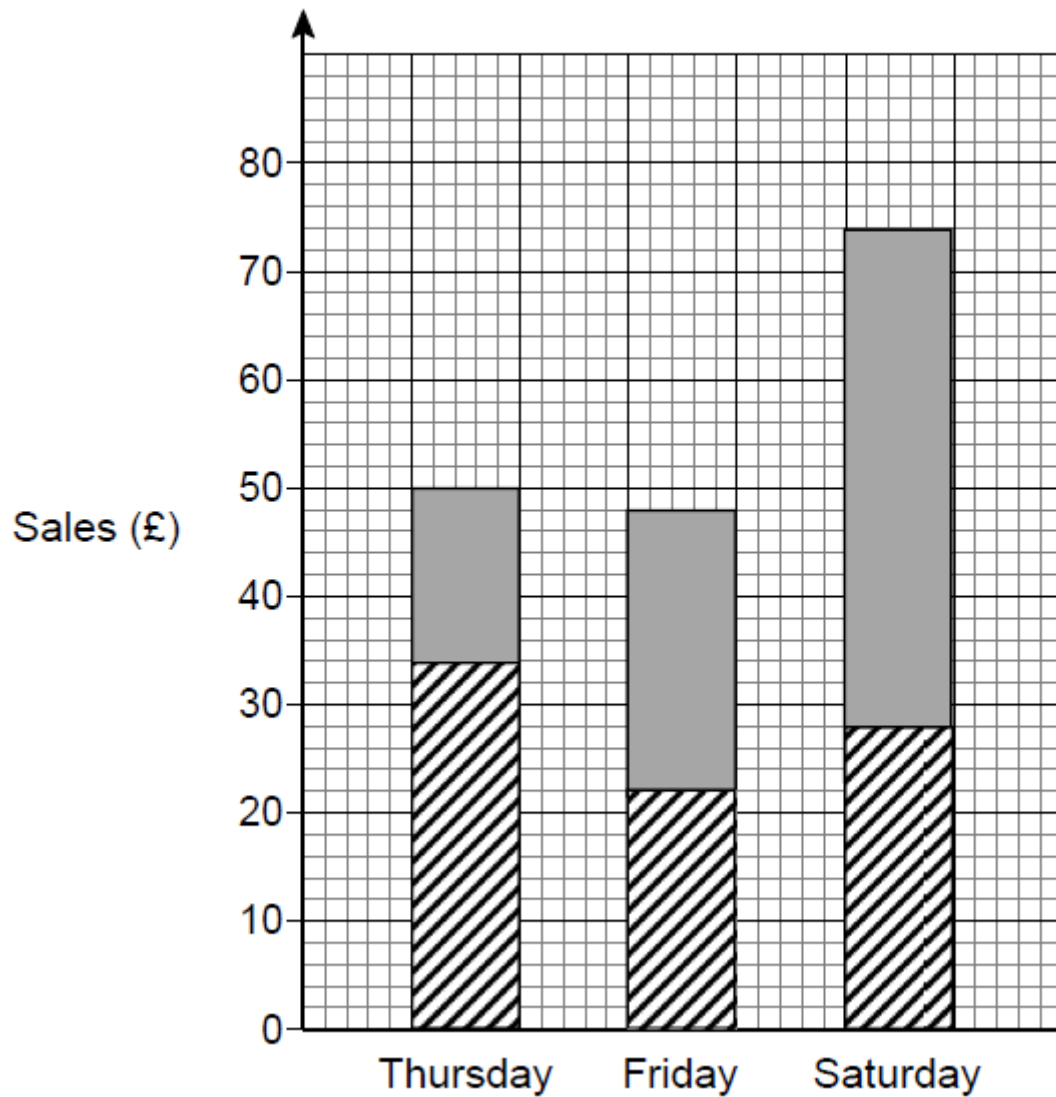
Reason 1

Reason 2

[2]

3. The table shows the sales of food and drink for three days at a market stall.

Day	Sales of food (£)	Sales of drink (£)
Thursday	34	16
Friday	22	48
Saturday	46	28

Hannah uses this information to draw a composite bar chart.

Sales of food and drink

Write down three different mistakes that she has made.
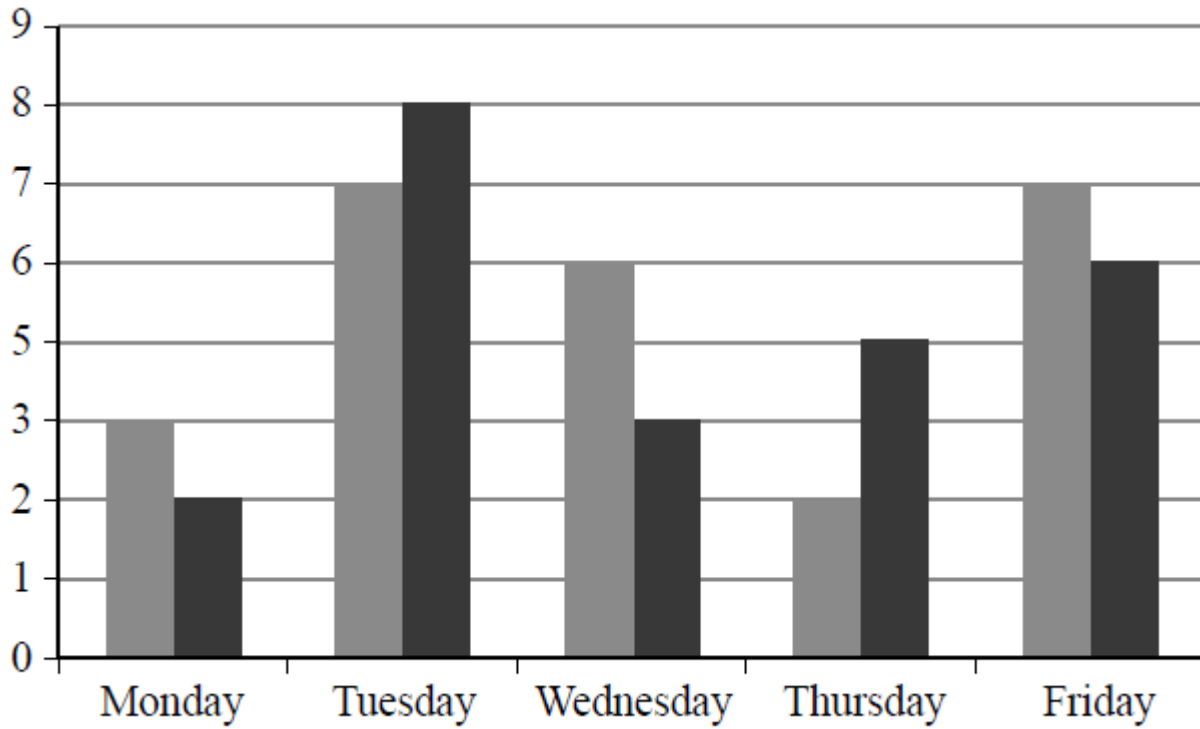
Mistake 1

Mistake 2

Mistake 3

[3]

4. Sam and Max work in a shop from Monday to Friday.

   Sam draws a graph to show the number of TVs they each sell.

   Write down three things that are wrong with this graph.
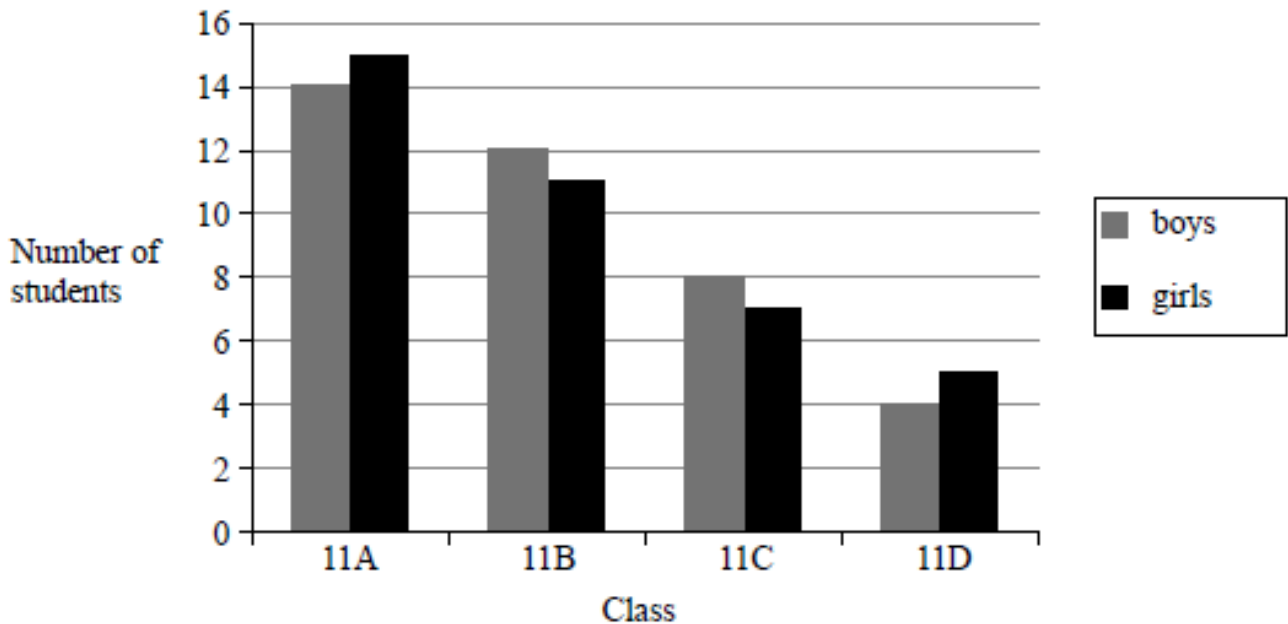

1

2

3

[3]

5. The bar chart gives information about the numbers of students in the four Year 11 classes at Trowton School.

(a) What fraction of the students in class 11A are girls?

.... [2]

Shola says,

   "There are more boys than girls in Year 11 in Trowton School."

(b) Is Shola correct?

You must give a reason for your answer.

....

.... [2]

The pie chart gives information about the 76 students in the same four Year 11 classes at Trowton School.

Number of students in Year 11 of Trowton School
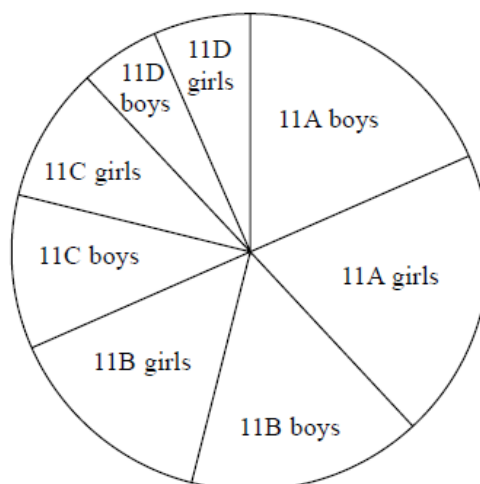
Tolu says,

"It is more difficult to find out the numbers of students in each class from the pie chart than from the bar chart."

(c) Is Tolu correct?

You must give a reason for your answer.

....

.... [1]

6. Some people were asked if they liked swimming or cycling or running.

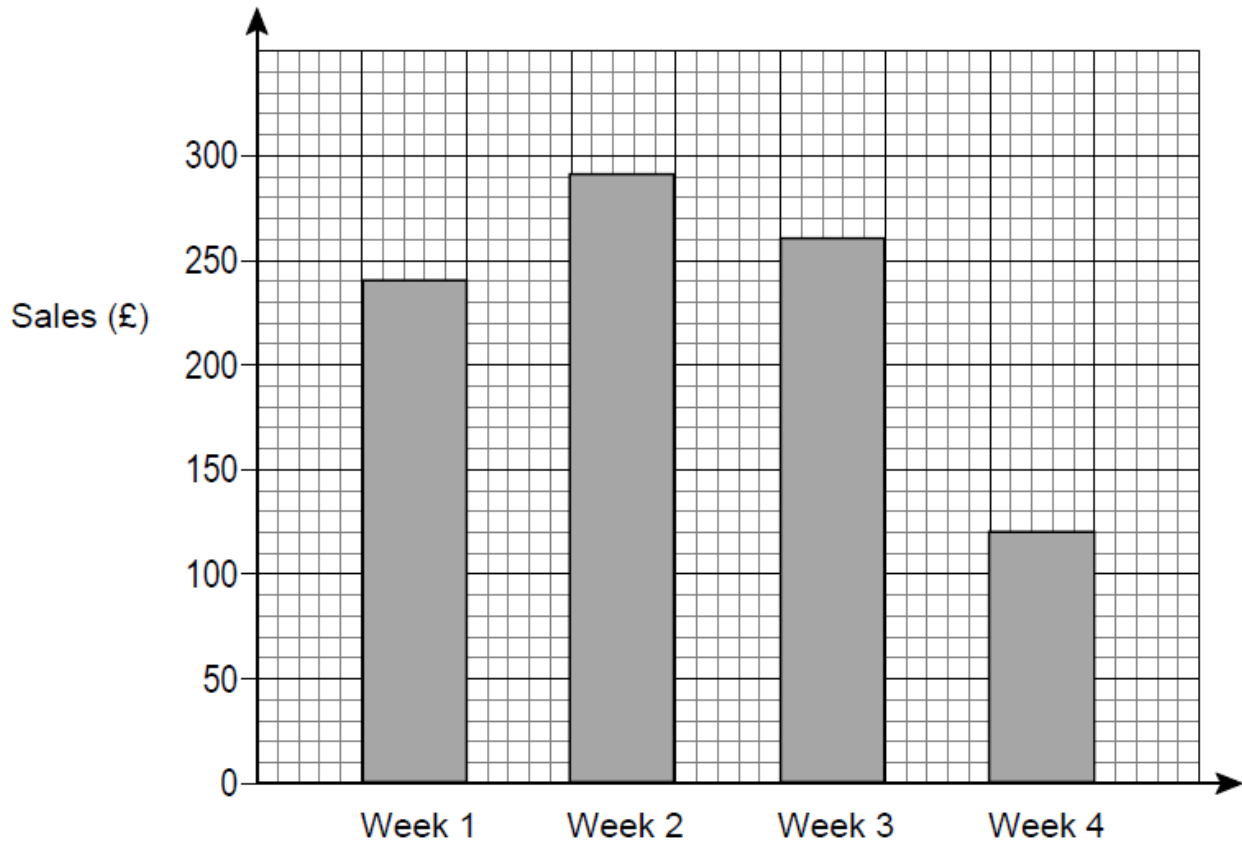The table shows the results for the males and the results for the females.

	Swimming	Cycling	Running
Male	2	6	4
Female	8	5	5

On the grid, draw a bar chart to show this information.

[4]

7. Zayn records his weekly sales.

   Every week his costs are £87.50

(a) Work out his profit in Week 1

£_____ [2]

(b) His sales in Week 4 were half of his sales in Week 1

   Zayn says,

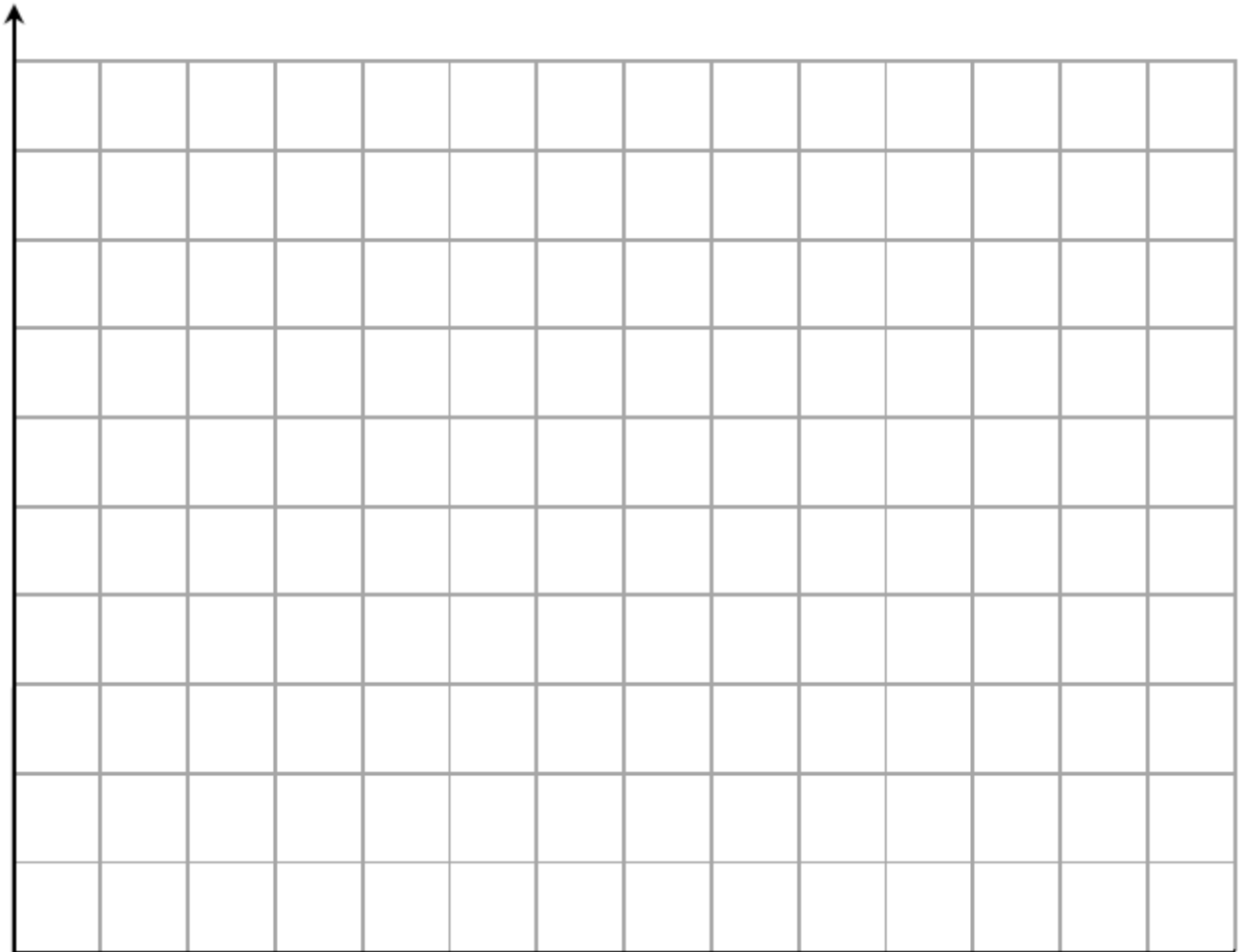   *"This means that my profit in Week 4 was half of my profit in Week 1"*

   Is he correct?

   You must show your working.

[2]

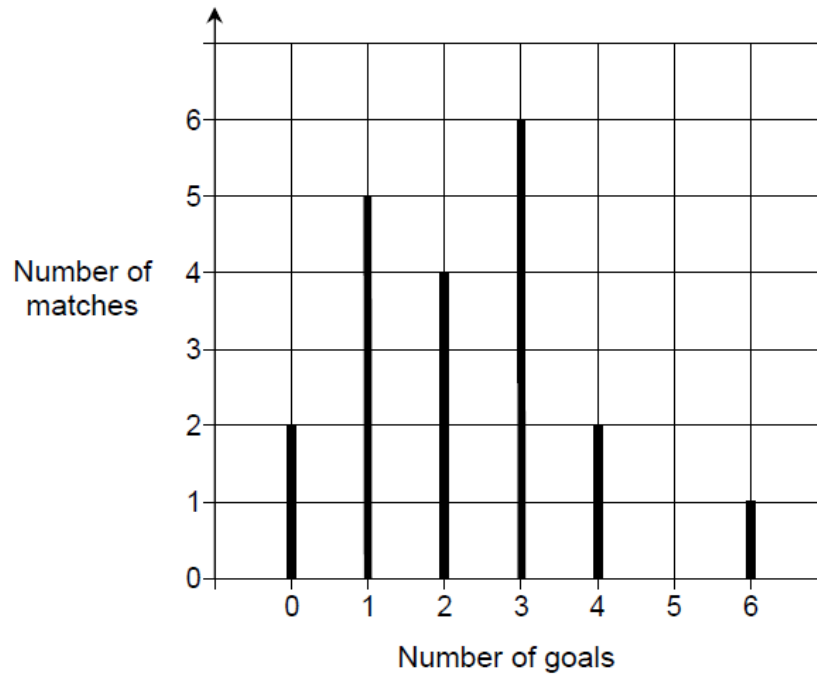8. The table shows how 25 students travel to school.

Walk	Bus	Car	Taxi
9	8	7	1

Draw a bar chart to show this information.

[4]

9. The line graph shows the number of goals scored by a hockey team.

(a) Which number of goals is the mode?

[1]

(b) How many matches did the hockey team play altogether?

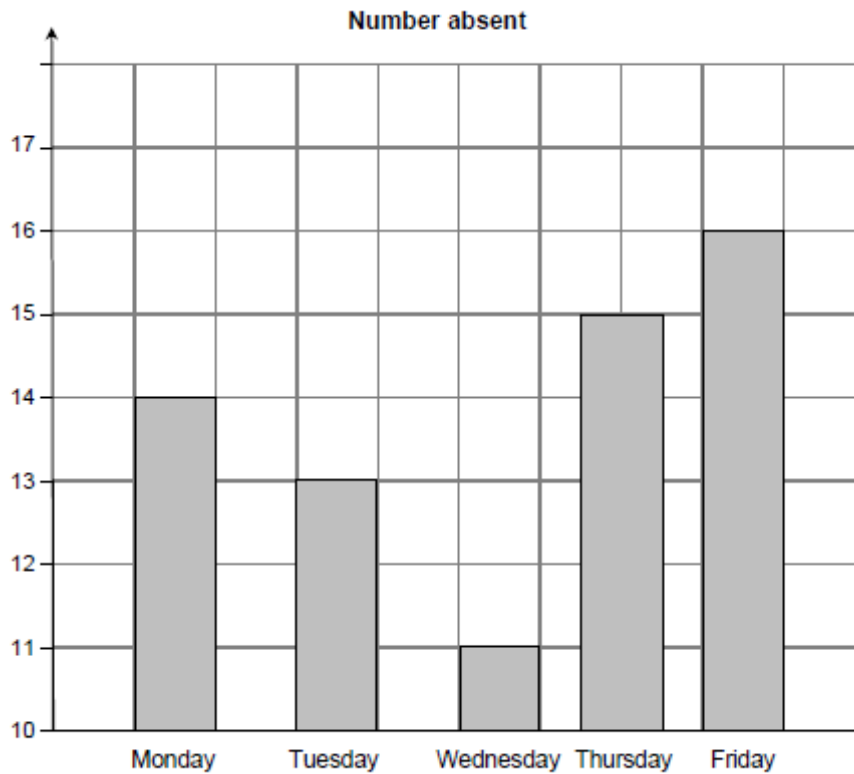[2]

(c) In one of the matches, this team won by 5 goals.

What was the score in that match?

[1]

10. The table shows the number of Year 11 students who were absent in one week.

	Monday	Tuesday	Wednesday	Thursday	Friday
Number absent	14	13	11	15	16

Jack uses this information to draw a bar chart.
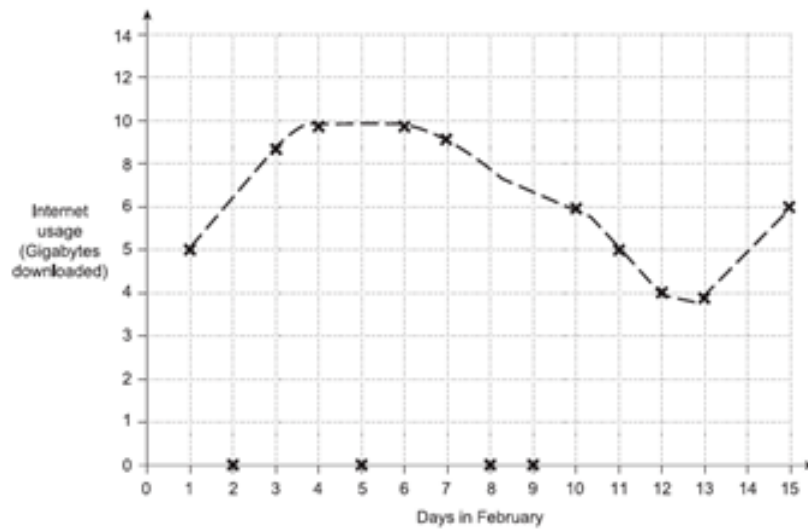
Number absent

Write down two mistakes that he has made.

Mistake 1

Mistake 2

[2]

11. Shinya's internet service provider gives him a graph of his internet usage in the first part of February.

State two reasons why this graph is misleading.

[2]

12. Some people took part in a book quiz.

The number of points that each person scored in the quiz is shown below.

16	27	18	26	28	10	22	29
25	13	28	23	19	26	14	25
26	15	17	27	11	27	16	21
11	24	29	18	24	12	28	17

(a) A table is drawn to summarise these results and to show the number of medals that were awarded at the end of the competition.
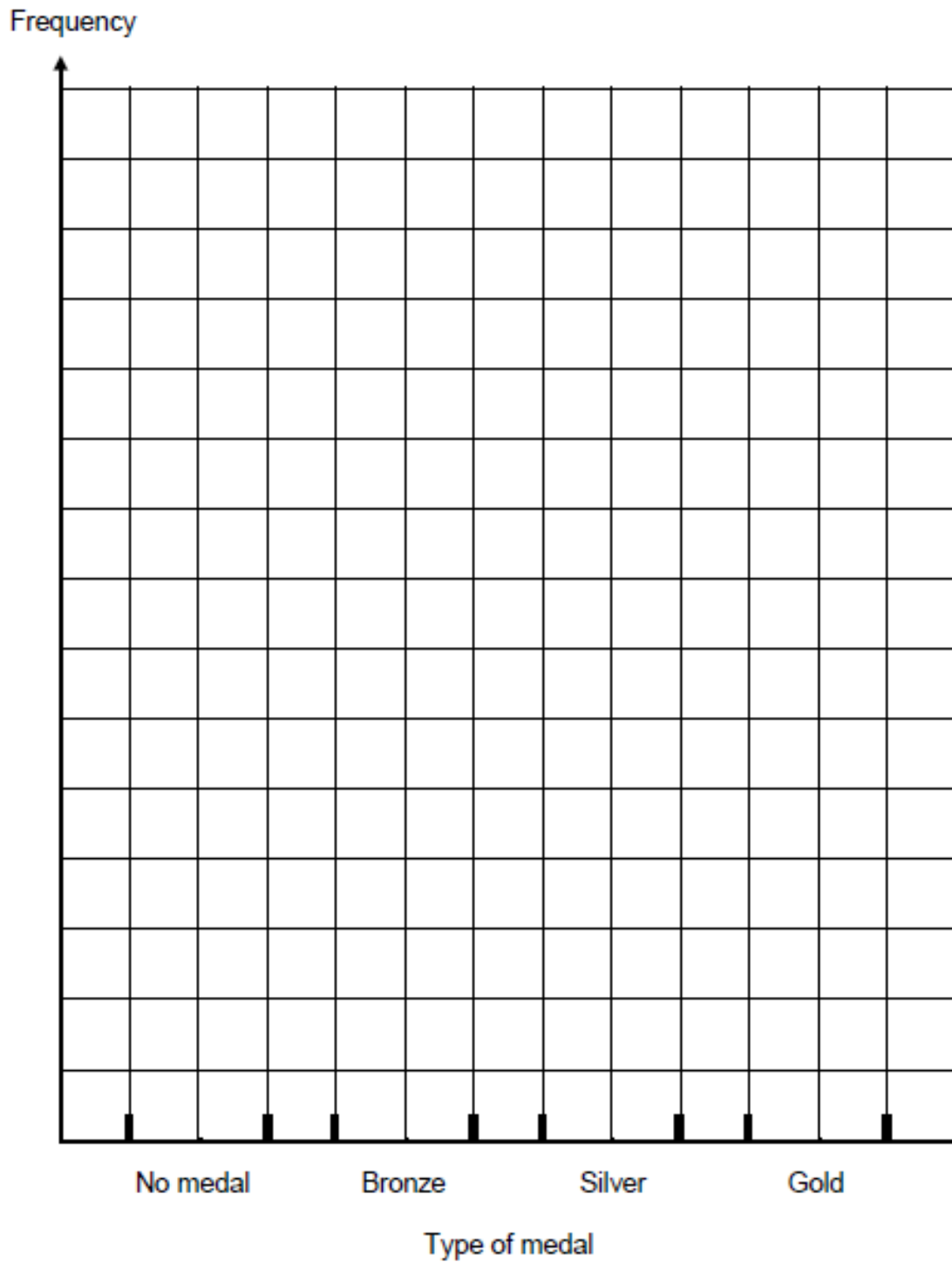
Complete the table below.

You must make sure that all the intervals in the Points column are of equal width.

Points	Number of competitors	Type of medal
10 to 14	6	No medal
15 to 19		Bronze
.... to		Silver
.... to 29		Gold

[2]

OJustMaths

(b) Using the squared paper below, draw a suitable bar chart that shows how the medals were shared.
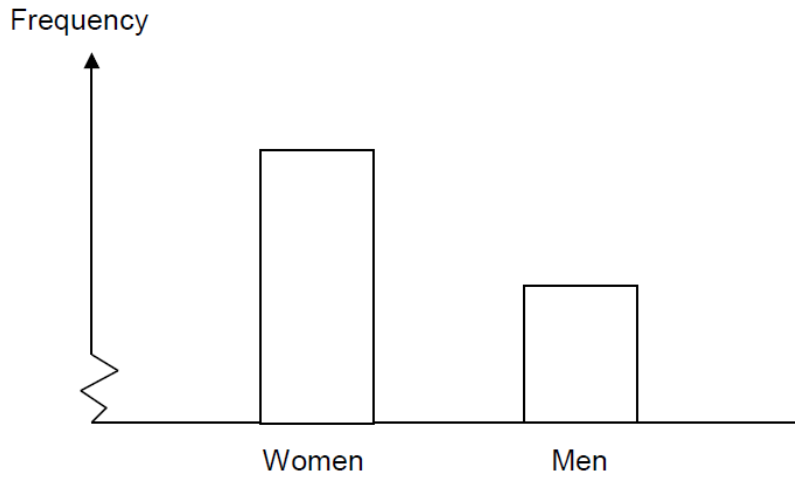
Frequency

Type of medal

[2]

13. (a) Explain why the statements that accompany each of the following diagrams in a newspaper may not be true.

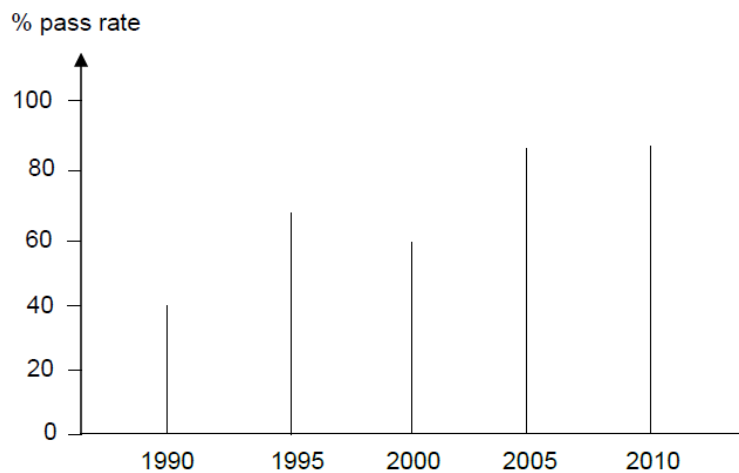Your comments should be based on the diagrams and not on your personal opinion.

(i) Taken from an item about accidents in the home.

'Twice as many women as men have accidents in the home.'

[1]

(ii) Taken from an item about a school's examination percentage pass rates.
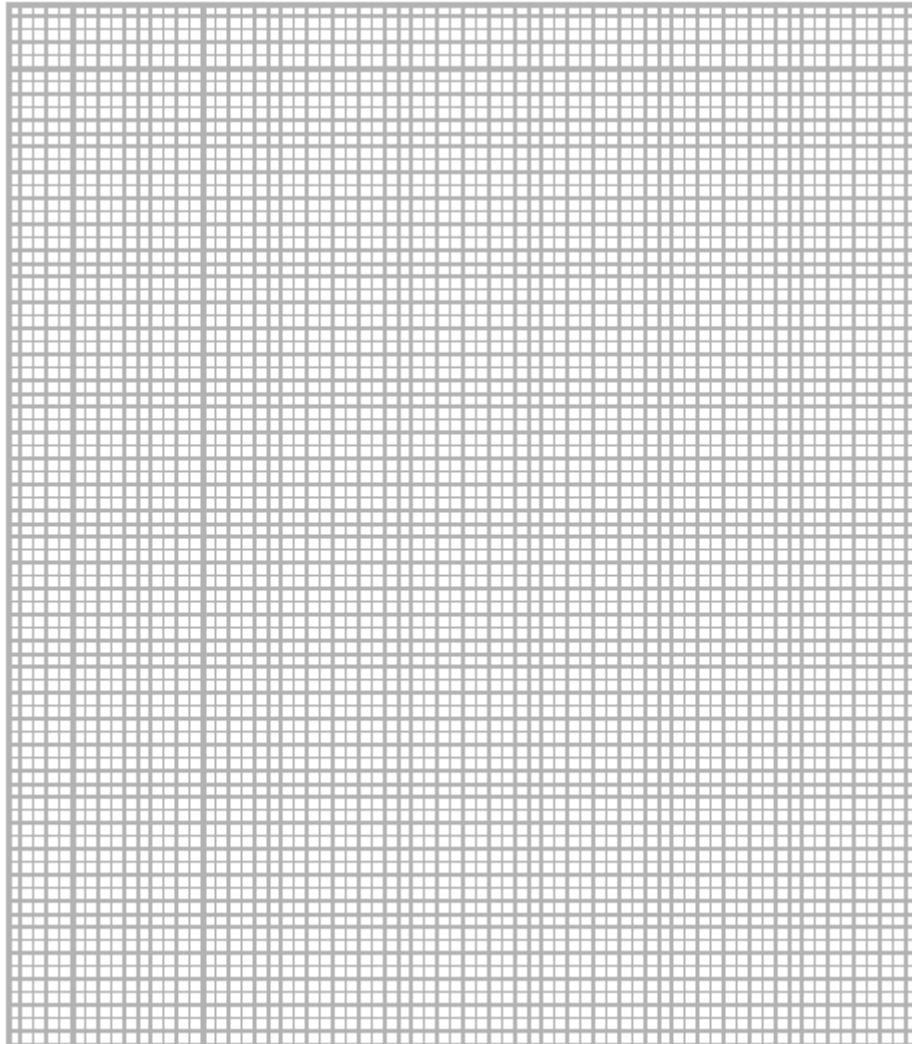

'The percentage pass rate has remained constant between 2005 and 2010'

[1]

14. The table shows information about the sports some students like best.

	Hockey	Tennis	Football	Golf
Boys	3	8	15	9
Girls	6	14	7	1

Draw a suitable diagram or chart for this information.

[4]

15. Here are the heights, in centimetres, of 15 children.

123	147	135	150	147
129	148	149	125	137
133	138	133	130	151

(a) Show this information in a stem and leaf diagram.
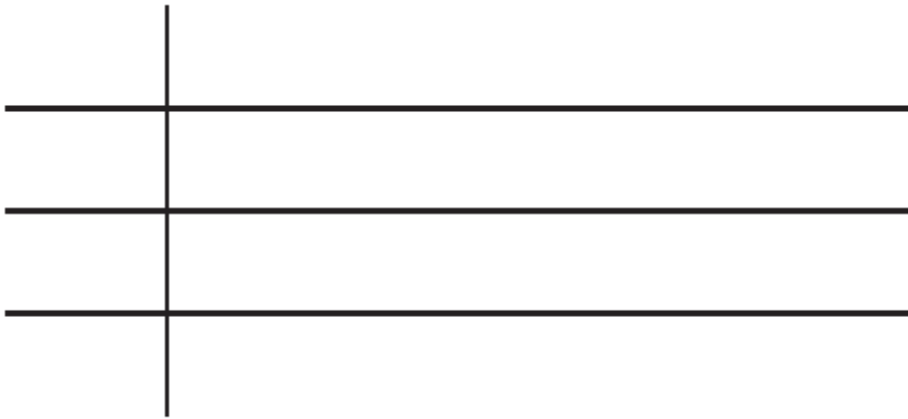
[3]

One of the children is chosen at random.

(b) What is the probability that this child has a height greater than 140 cm?

.... [2]

16. The bar chart shows how people in different age groups book their holidays.

Holiday bookings

| 16 to 29 year olds | 30 to 44 year olds | 45 year olds and over |
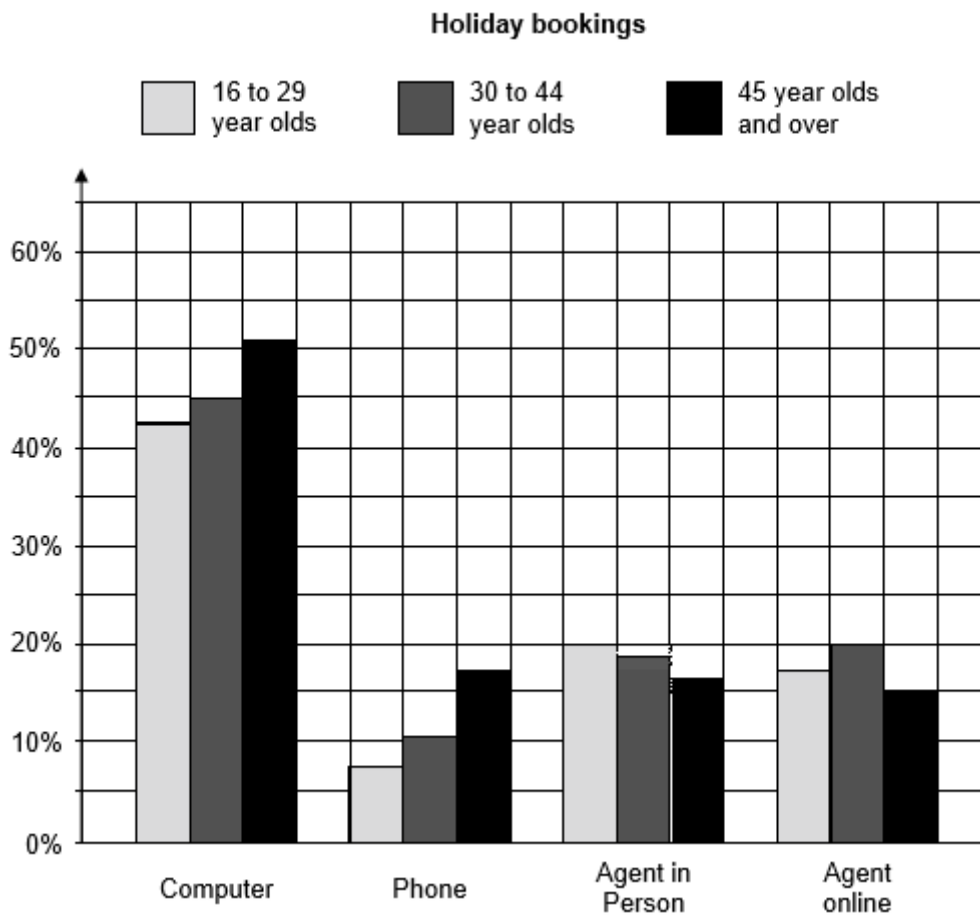
a) Which two ways of booking are most popular for 16 to 29 year olds?

_____ and _____ [2]

b) In total, what percentage of 16 to 29 year olds booked with an agent?

Give your answer to the nearest 10%

Answer _____ % [2]

c) Compare the bookings for 30 to 44 year olds with the bookings for 45 year olds and over.

[2]

CREDITS AND NOTES

Question	Awarding Body	Question	Awarding Body
1	OCR	12	WJEC Eduqas
2	OCR	13	WJEC Eduqas
3	AQA	14	Pearson Edexcel
4	Pearson Edexcel	15	Pearson Edexcel
5	Pearson Edexcel	16	AQA
6	Pearson Edexcel		
7	AQA		
8	AQA		
9	AQA		
10	AQA		
11	OCR		

Notes:

These questions have been retyped from the original sample/specimen assessment materials and whilst every effort has been made to ensure there are no errors, any that do appear are mine and not the exam board s (similarly any errors I have corrected from the originals are also my corrections and not theirs!).

Please also note that the layout in terms of fonts, answer lines and space given to each question does not reflect the actual papers to save space.

These questions have been collated by me as the basis for a GCSE working party set up by the GLOW maths hub - if you want to get involved please get in touch. The objective is to provide support to fellow teachers and to give you a flavour of how different topics "could" be examined. They should not be used to form a decision as to which board to use. There is no guarantee that a topic will or won't appear in the "live" papers from a specific exam board or that examination of a topic will be as shown in these questions.

Links:

AQA http://www.aqa.org.uk/subjects/mathematics/gcse/mathematics-8300

OCR http://ocr.org.uk/gcsemaths

Pearson Edexcel http://qualifications.pearson.com/en/qualifications/edexcel-gcses/mathematics-2015.html

WJEC Eduqas http://www.eduqas.co.uk/qualifications/mathematics/gcse/

Contents:

This version contains questions from:

AQA – Sample Assessment Material, Practice set 1 and Practice set 2

OCR – Sample Assessment Material and Practice set 1

Pearson Edexcel – Sample Assessment Material, Specimen set 1 and Specimen set 2

WJEC Eduqas – Sample Assessment Material