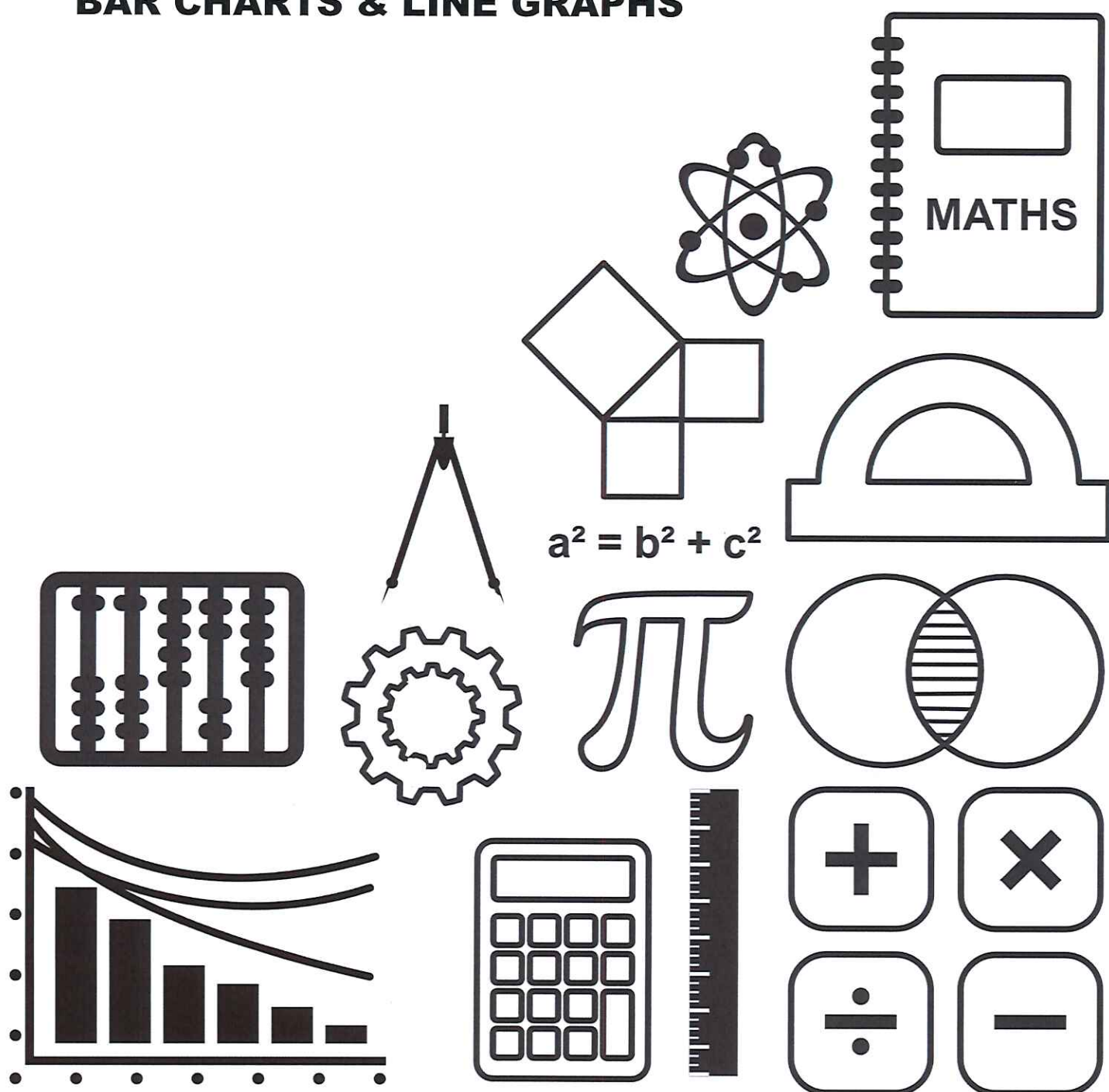


SOLUTIONS

GCSE TOPIC BOOKLET BAR CHARTS & LINE GRAPHS



1.

A jar contains a total of 24 marbles.

- The marbles are only red, yellow, blue or green.
- There are 8 red marbles.
- The number of yellow marbles is half the number of red marbles.
- There is an equal number of blue and green marbles.

(a) Use this information to fill in the table.

[2]

$$\text{Yellow} = 8 \div 2 = 4$$

$$\text{Blue and green} = 24 - (8 + 4) = 12$$

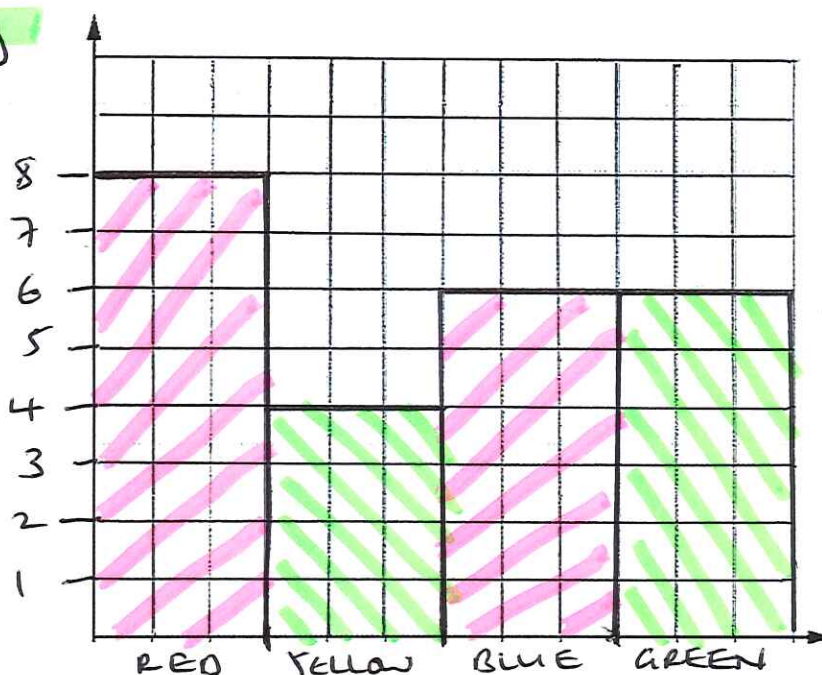
Same number of each

Colour of marbles	Red	Yellow	Blue	Green
Number of marbles	8	4	6	6

(b) Draw a bar chart to show the number of red, yellow, blue and green marbles in the jar.

[4]

Frequency



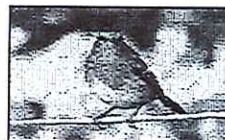
Colour of marble

Careful:-

you must fully label the axes and the bars must be of the same width.

2.

Sara took part in the RSPB's *Big Garden Birdwatch* where the numbers of different types of birds are counted in a garden for an hour.

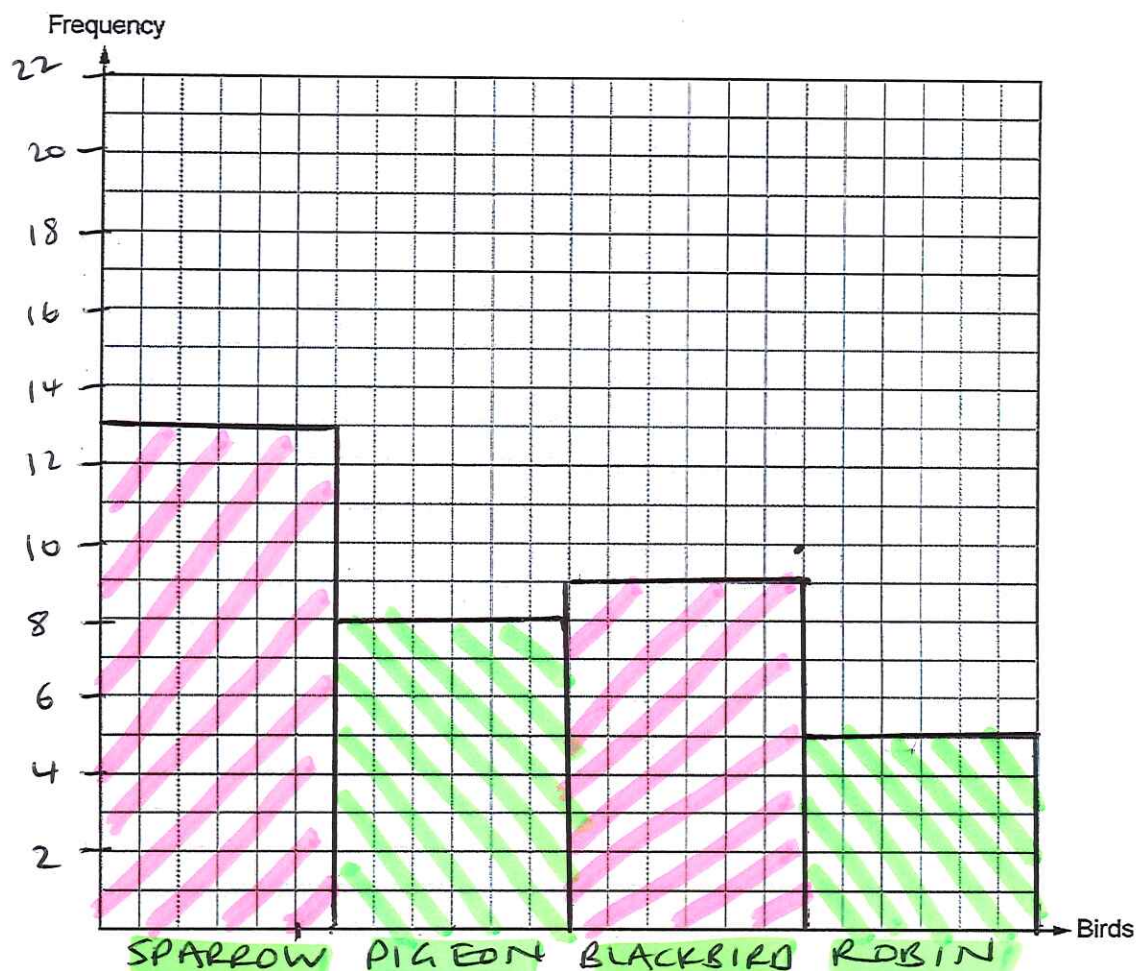


Here are Sara's results:

Type of bird	Sparrow	Pigeon	Blackbird	Robin
Frequency	13	8	9	5

(a) Draw a bar chart to display this information.

[4]



(b) Complete the following sentence with the types of bird.

[1]

The total number of PIGEON and ROBIN counted in Sara's garden is the same as the number of SPARROW counted.

3.

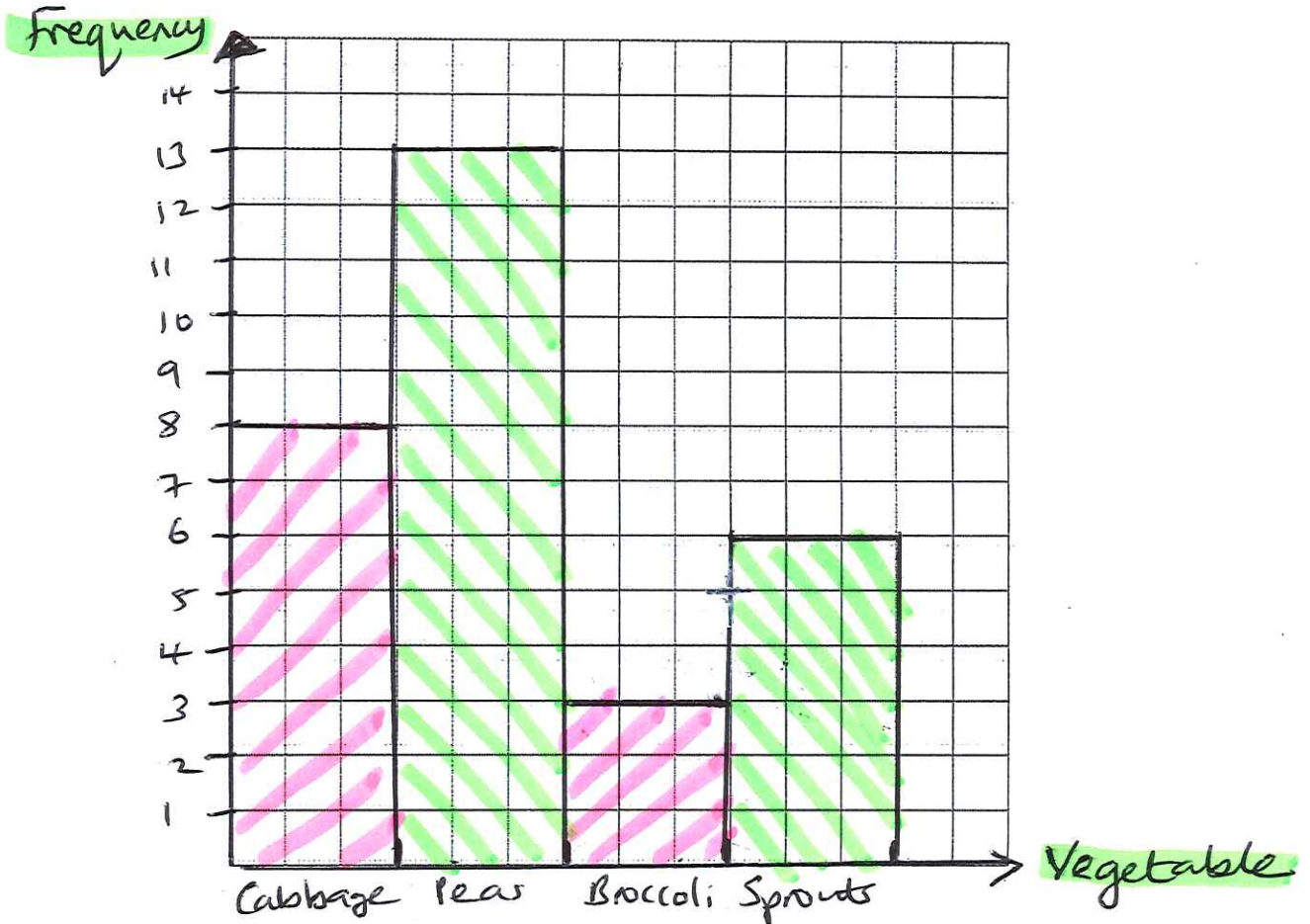
Elina carried out a survey of 30 people to find out which vegetable, from a choice of cabbage, peas, broccoli and sprouts they liked the most. Her results are as follows.

Cabbage	Cabbage	Peas	Peas	Sprouts	Sprouts
Peas	Cabbage	Peas	Sprouts	Peas	Peas
Broccoli	Sprouts	Cabbage	Sprouts	Peas	Peas
Peas	Peas	Peas	Cabbage	Sprouts	Cabbage
Cabbage	Peas	Cabbage	Broccoli	Broccoli	Peas

Use the data to draw a suitable bar chart on the squared paper below.

[6]

Cabbage 8
Peas 13
Broccoli 3
Sprouts 6

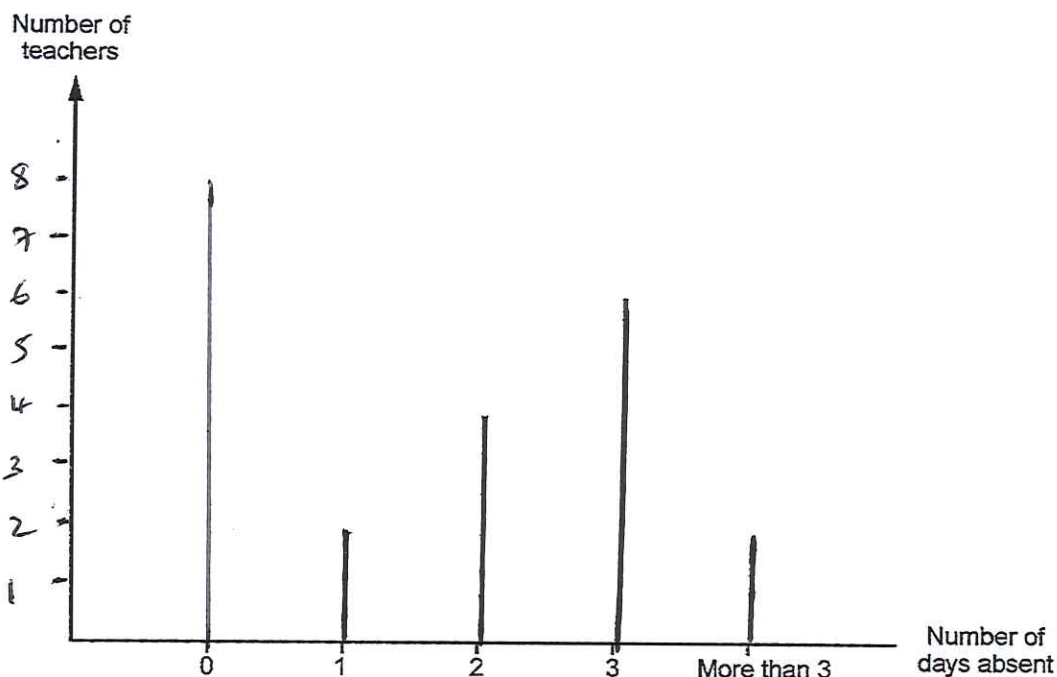


4.

During one term, a school recorded the number of days each teacher was absent from work. A summary of the results is given below.

Number of days absent	0	1	2	3	More than 3
Number of teachers	8	2	4	6	2

- (a) On the diagram below, draw a **vertical line diagram** to show this information. [3]



- (b) How many teachers are there in this school? [1]

$$8 + 2 + 4 + 6 + 2 = 22$$

- (c) Explain why it is not possible to calculate the total number of days that the teachers were absent during this term. [1]

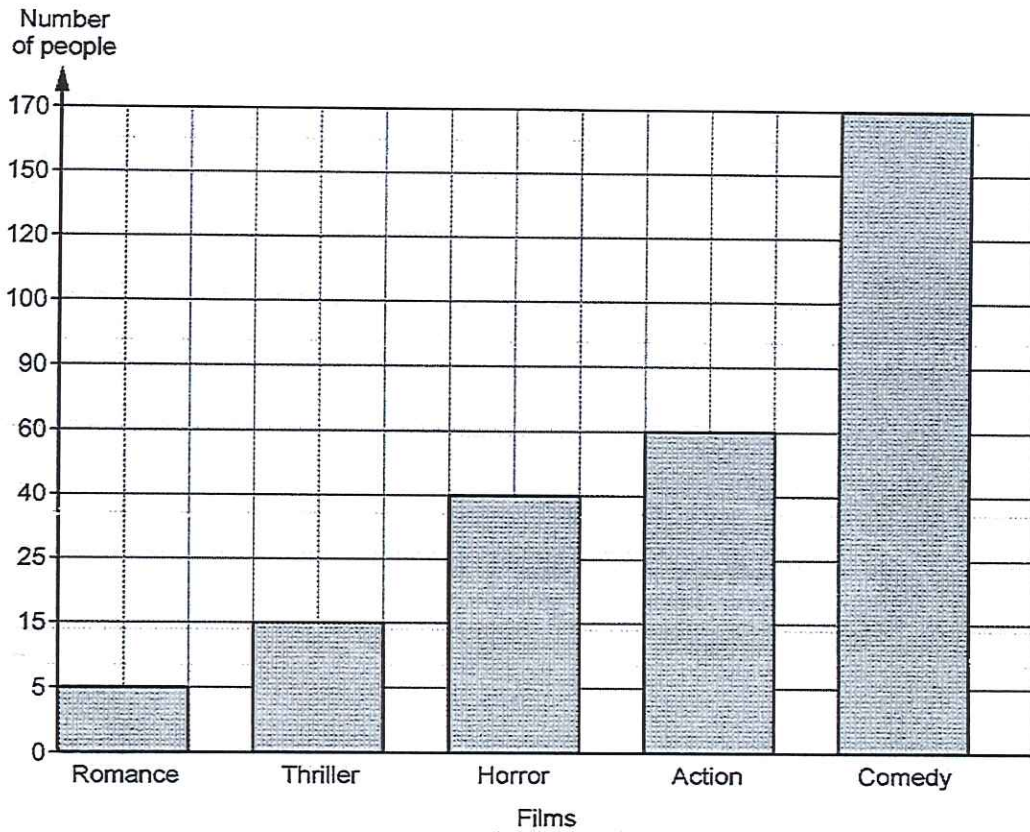
Because 2 of the teachers were absent for more than 3 days. Those values are not known. Eg might be 4, 10, 20 etc.

5.

- (a) In a magazine, Owen saw the following graph about the different types of film that people like.

He told his friend:

This graph shows that twice as many people like comedy films than action ones!



Owen's statement is incorrect.

What is wrong with the graph that has led Owen to make his statement?

[1]

The scale on the number of people axis is wrong. It does not go up in equal amounts. Eg 0-5 (up 5) compared to 25-40 (up 15)

- (b) Owen asks 40 people which type of film they like. The choices are romance (R), thriller (T), horror (H), action (A) and comedy (C). His results are as follows:

C	C	A	A	T	H	R	H	R	T
H	C	T	C	T	C	H	C	A	A
C	H	H	C	A	T	R	C	C	T
T	R	C	T	H	T	H	C	R	R

Use the data to draw a suitable bar chart on the squared paper below.

[6]

Comedy = 12

Action = 5

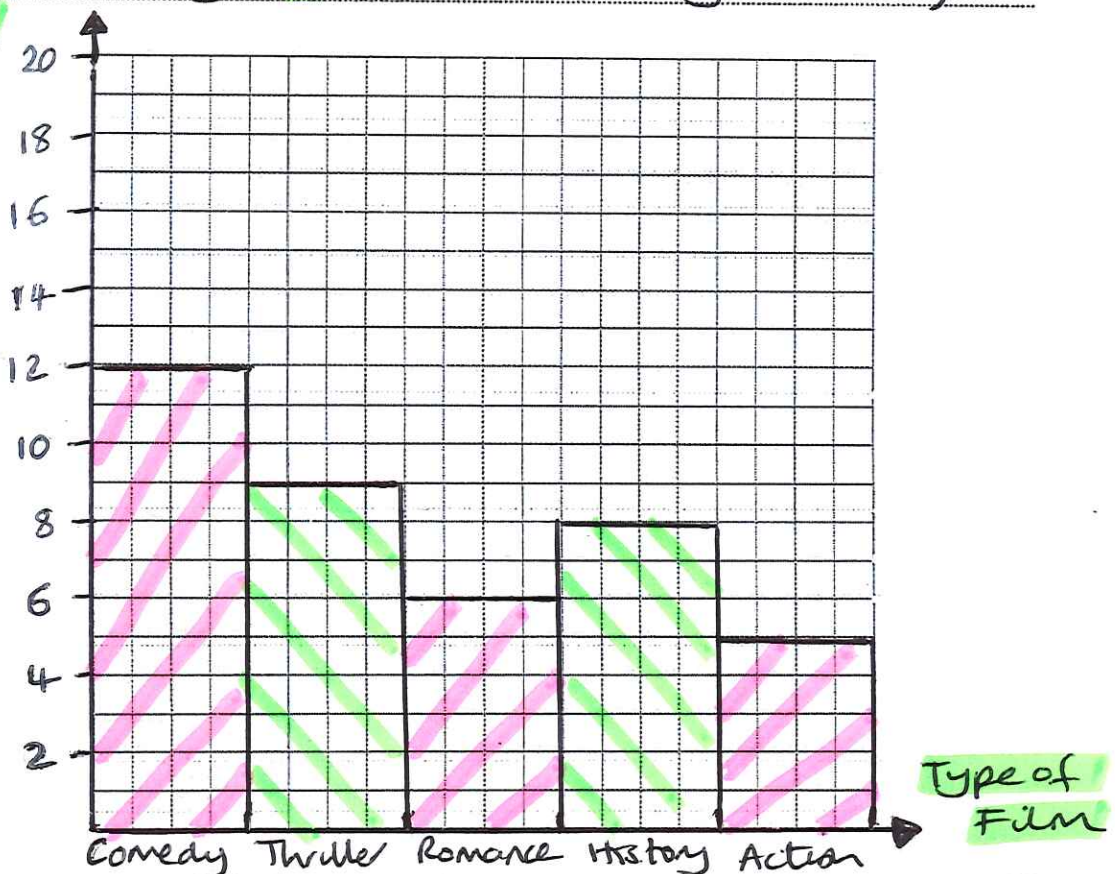
Thriller = 9

Romance = 6

(Tip: add these together to check they total 40)

History = 8

Frequency



- (c) Complete the following sentence.

[1]

Owen's results show that the number of people who liked Comedy is twice the number of people who liked Romance.

6.

Fifty people who regularly visit the cinema were asked which of four types of film they preferred.

The four types of film were Comedy (C), Adventure (A), Science Fiction (SF) and Romantic (R).

The answers given are recorded on the grid below.

A	R	C	SF	R	C	C	SF	A	C
SF	SF	R	C	R	C	SF	C	SF	R
R	C	C	SF	C	R	R	C	C	SF
C	A	C	R	SF	R	A	A	R	C
A	R	A	C	A	C	A	A	C	R

(a) Complete the frequency table below.

[2]

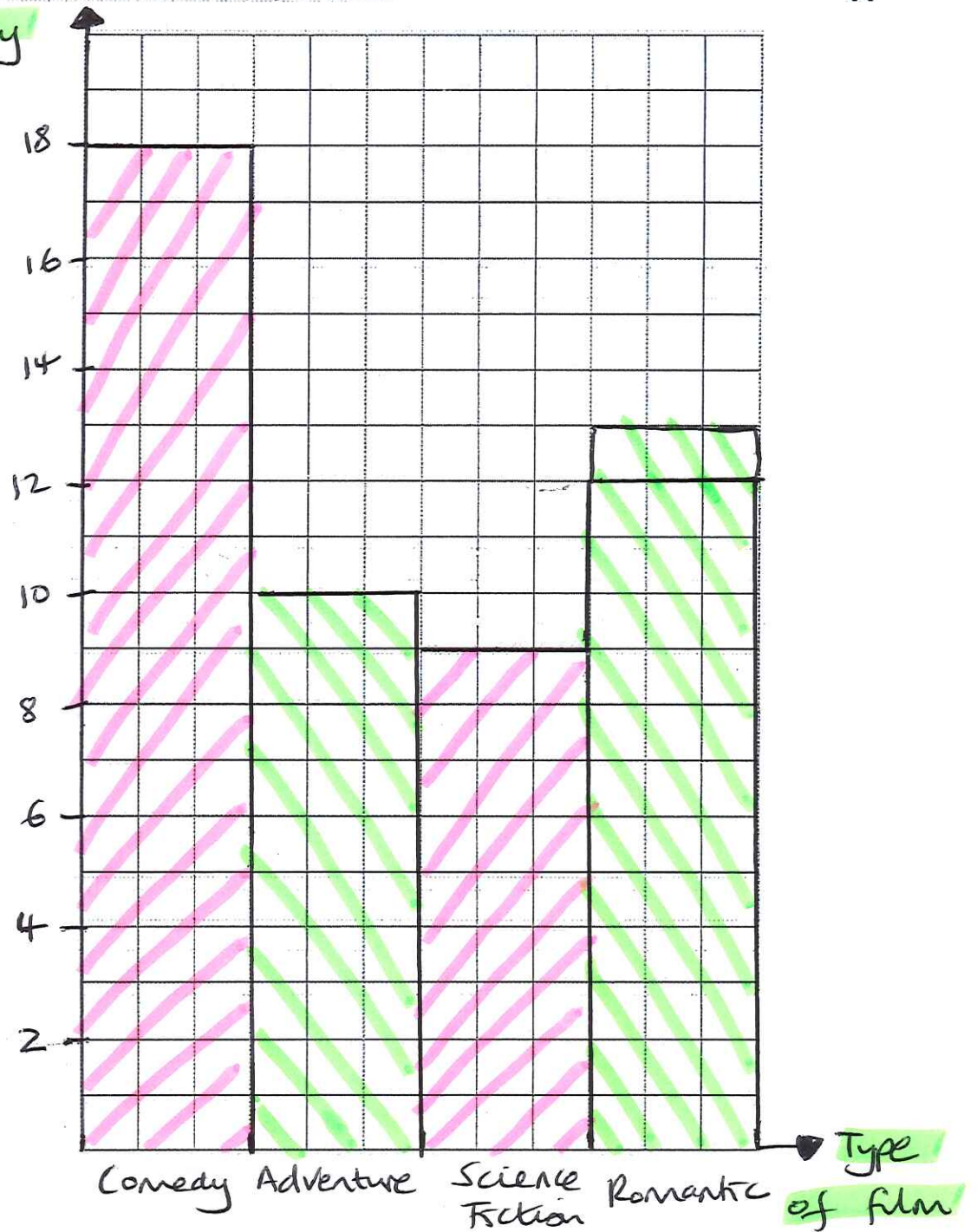
Type of film	Tally	Frequency
Comedy (C)	 	18
Adventure (A)	 	10
Science Fiction (SF)	 	9
Romantic (R)	 	13

TIP check it totals the 50!

(b) Draw a bar chart to display the results.

[4]

Frequency



(Make sure you label the axes)

7.

Thirty-two competitors took part in a book quiz.
The points that each competitor gained in the quiz are shown below.



- (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.

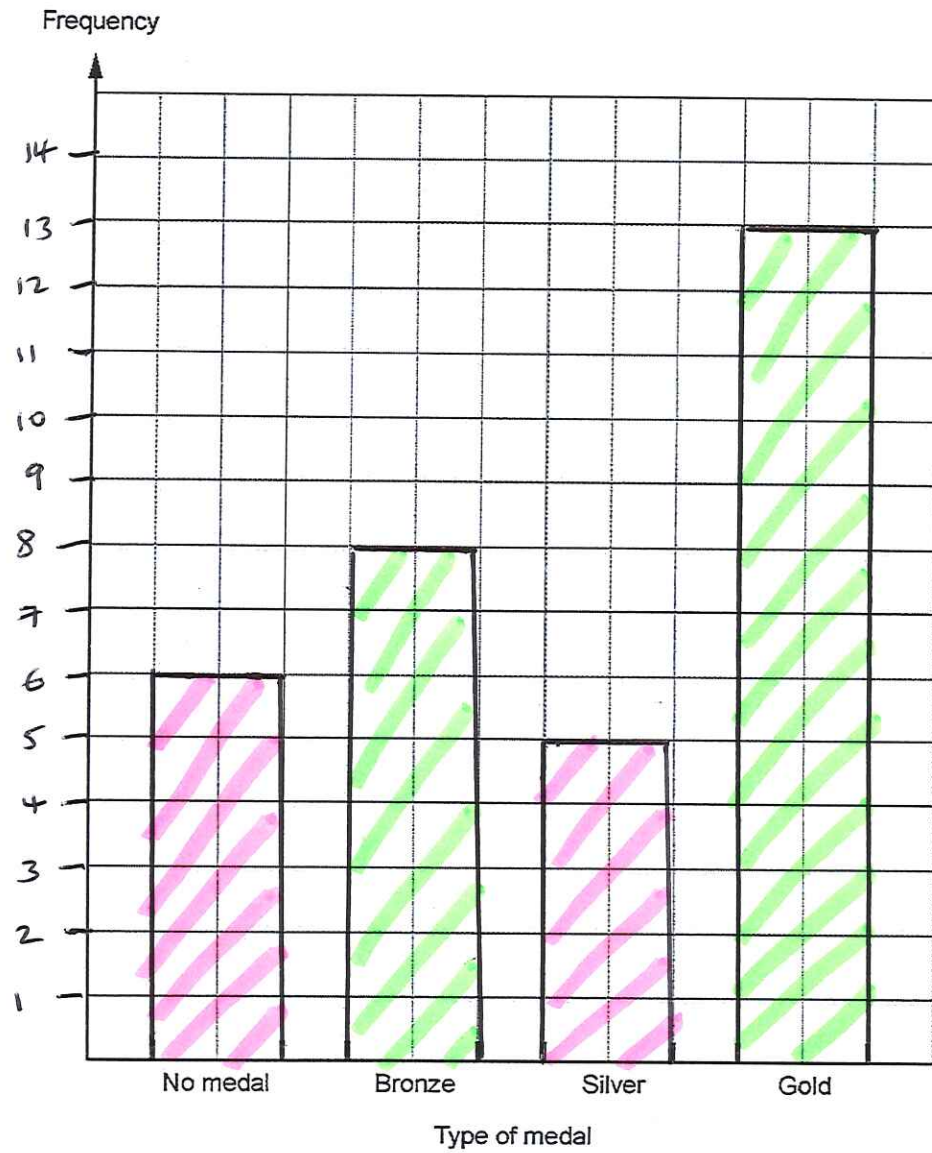
Complete the table by filling in the empty spaces.

You must make sure that all the intervals in the Points column are of equal width. [4]

Points	Tally	Number of competitors	Type of medal
10 to 14	I	6	No medal
15 to 19		8	Bronze
20 to 24		5	Silver
25 to 29		13	Gold

↓
check this
total 32

- (b) Using the squared paper on the next page, draw a suitable bar chart that shows how the medals were shared. [3]

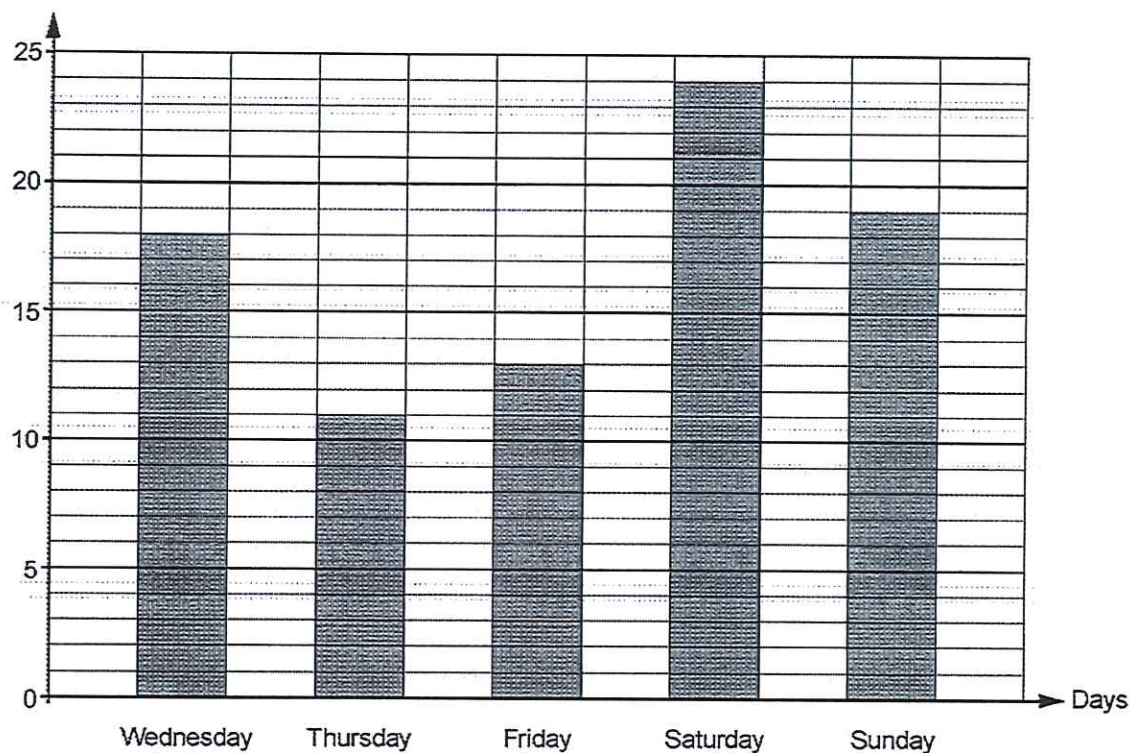


8.

A 'Food Fair' was held in a town each day from Wednesday to Sunday.

The diagram shows the number of orders a cheese-maker took on each of these days.

Number of orders



(a) On which day did she take the fewest orders?

[1]

Thursday

(b) What was the total number of orders taken over the weekend (Saturday and Sunday)?

[1]

$$\begin{array}{r}
 24 \\
 + 19 \\
 \hline
 43 \\
 1
 \end{array}$$

43

- (c) Every order she took on Friday was worth £12.50.
What was the total value of the orders taken on Friday?

[2]

$$13 \times £12.50 = \underline{£162.50}$$

- (d) She took more money on the Thursday than on the Wednesday.
Explain how this could have happened.

[1]

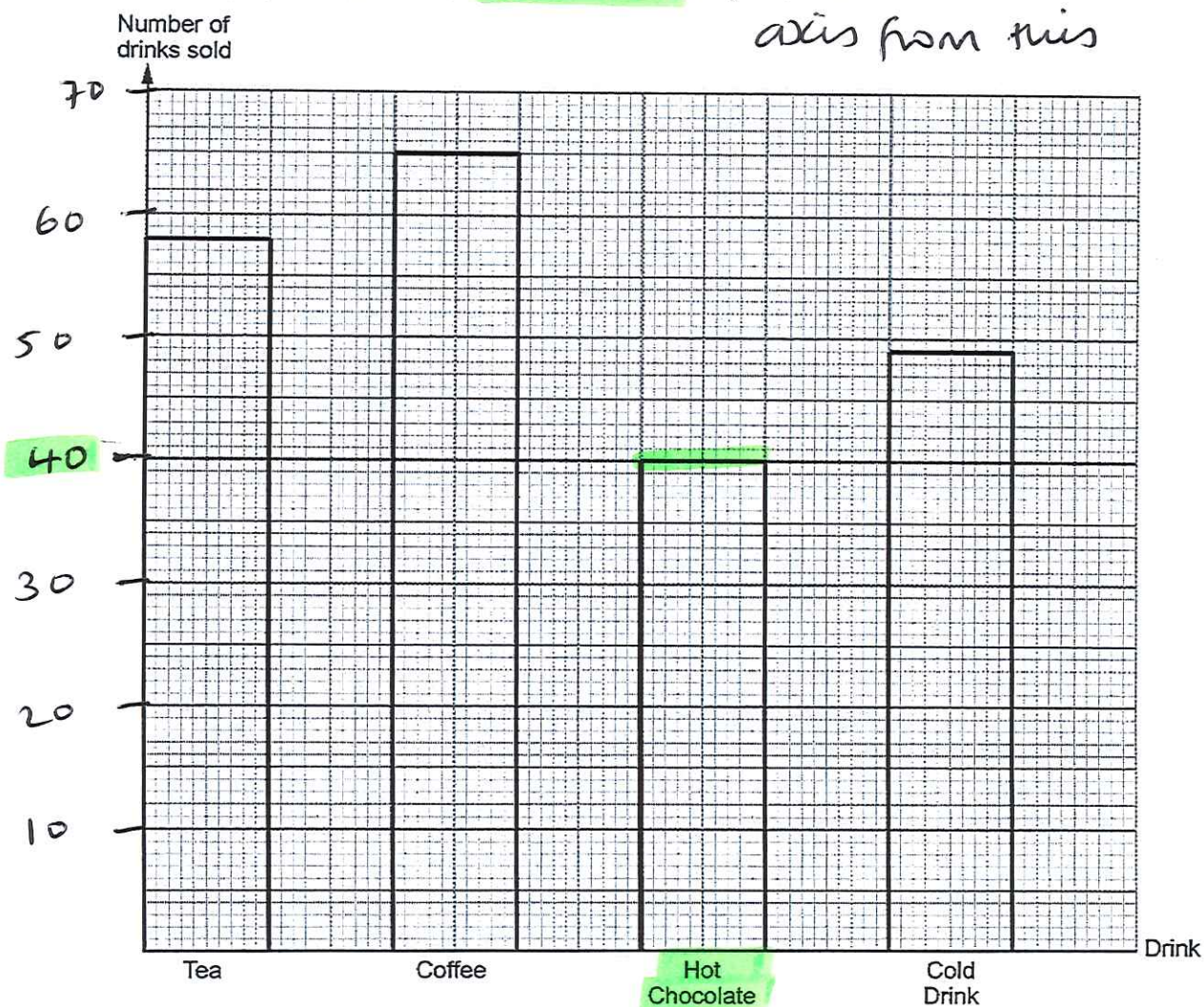
The orders on Thursday could have been for more produce, so that even though there were less orders, because the orders were worth more, more money would be taken.

9.

A café owner records the number of teas, coffees, hot chocolates and cold drinks that she sells each day.

On Monday, she decides to represent the information in a bar chart, but forgets to write a scale for the number of drinks on the vertical axis.

She remembers that she sold 40 hot chocolates. → label the drinks axis from this



(a) Complete the frequency table below for the number of each drink sold on Monday. [4]

Drinks	Tea	Coffee	Hot Chocolate	Cold Drink
Number of drinks sold	58	65	40	49

(b) The cost of each drink is listed below:

Drinks	Cost of each drink	Number of drinks sold	Amount taken
Tea	£1.35	58	£78.30
Coffee	£1.90	65	£123.50
Hot Chocolate	£2.00	40	£80.00
Cold Drink	70p	49	£34.30
Total amount taken			£316.10

- (i) Complete the table to calculate the total amount of money taken by the café owner for the drinks sold on Monday. [4]

£316.10

- (ii) The café owner gave 20% of Monday's takings to a local charity. How much of Monday's takings did she have left after giving to the local charity? [3]

20% of £316.10

$= \frac{1}{5} \times £316.10$

£63.22

£316.10 - £63.22

£252.88