

Histogram

A survey was carried out to record the speeds of cars on a motorway. The histogram illustrates the results.

a) Use the histogram to complete the grouped frequency table.

The table gives information about the speed, in mph, of helicopters.

| Speed (s, mph) | Frequency |
|--------------------|-----------|
| $100 < s \leq 130$ | 6 |
| $130 < s \leq 180$ | 60 |
| $180 < s \leq 220$ | 112 |
| $220 < s \leq 250$ | 54 |

a) On the grid, draw a histogram for the information in the table.

b) how many helicopters travelled faster than 170 mph?

| Speed (s, mph) | Frequency |
|-------------------|-----------|
| $50 < s \leq 60$ | |
| $60 < s \leq 80$ | |
| $80 < s \leq 90$ | |
| $90 < s \leq 100$ | |

| Height (h, cm) | Frequency |
|------------------|-----------|
| $50 < h \leq 60$ | 9 |
| $60 < h \leq 70$ | 12 |
| $70 < h \leq 80$ | 7 |
| $80 < h \leq 90$ | 8 |

Draw a graph to represent the above information about the heights of shrubs in a garden.

The speed limit on the motorway is 70mph.

b) Calculate the proportion of people speeding.

Scatter Graph

Miss B tracks a class of 16 students of similar abilities revision hours from Easter until their final exam in June. She also notes their exam results.

a) Describe the relationship.

b) Miss B analyses the data for the class and says "If a student wants to achieve 30 marks they will need to complete 15 hours of revision." Is she correct?

c) Circle the outlier value.

d) Give a reason as to why the results might differ from the results on the other checks.

Scatter Graph

Walls Ice Cream company track sales in a shop by conducting a random visit once a month. In each visit the record the average temperature for the day and the sale of ice creams.

a) Describe the correlation.

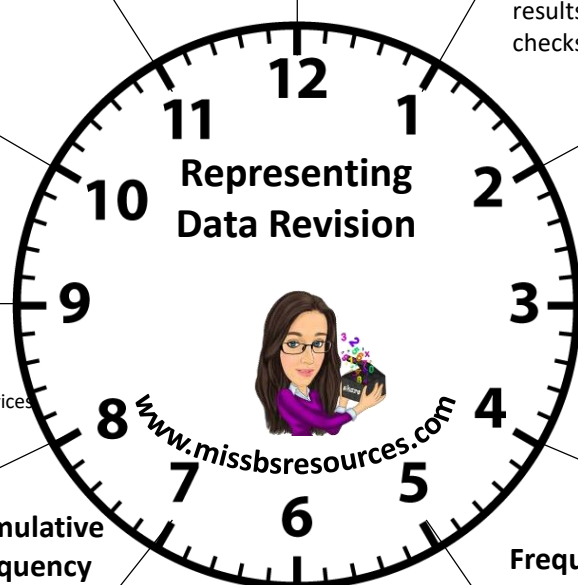
b) Estimate the amount of ice cream sales in the shop when the temperature is $27^{\circ}C$.

Pie Chart

Diagram Not Drawn Accurately

The pie chart shows some information about the share of votes for students in the school council elections.

There were 1440 votes in total. The angle for Ben would be 28° more than the angle for Chloe. Calculate the number of votes Ben received to win the election.



Cumulative Frequency

The times taken by technicians to complete an MOT and Service on a car are illustrated in the cumulative frequency diagram.

a) Calculate an estimate for the percentage of MOT and Services that took longer than 25 minutes.

b) The technicians were give a target to complete 50% of the MOT and Services within 18 minutes. Did they meet the target?

b) Find the median weight.

c) What proportion of the babies weighed more than 9 pounds?

Cumulative Frequency

50 babies were weighed a week after birth by a midwife. There individual weights were recorded.

| Weight (w, pounds) | Frequency |
|--------------------|-----------|
| $4 < w \leq 6$ | 3 |
| $6 < w \leq 8$ | 9 |
| $8 < w \leq 12$ | 18 |
| $12 < w \leq 16$ | 20 |

a) Construct a cumulative frequency diagram.

b) Find the median weight.

c) What proportion of the babies weighed more than 9 pounds?

Box Plot

In the Great North Run in 25% of the population were between 18 and 25 years old. 50% of the population were under 34 years old. The inter-quartile range of ages was 28 years. The oldest person was 92 years old.

Box Plot

Ethan played 11 games of rugby. Here are his scores.

0, 2, 3, 3, 5, 5, 7, 8, 9, 9, 11

a) Draw a box plot for this information.

Reece plays the same 11 games of rugby. The median number of points Reece scored is 7. The interquartile range of these points is 4. The range of these points is 9.

b) Who is more consistent at scoring points? You must give a reason for your answer.

Frequency Polygon

Miss B tracked the times of 40 females and 40 males arrival to their English lessons one day.

| Height (h cm) | Frequency |
|------------------|-----------|
| $0 < h \leq 10$ | 7 |
| $10 < h \leq 20$ | 21 |
| $20 < h \leq 30$ | 18 |
| $30 < h \leq 40$ | 4 |

| Lateness (t, Minutes) | Females | Males |
|-----------------------|---------|-------|
| $0 \leq t \leq 2$ | 21 | 16 |
| $2 < t \leq 4$ | 13 | 15 |
| $4 < t \leq 8$ | 6 | 9 |
| $t > 8$ | 0 | 0 |

a) Draw two frequency polygons to illustrate this data.

b) Use your polygons to compare the lateness of females and males and comment on any differences you observe.

Draw a frequency polygon to show this information.