

Histograms

(a)

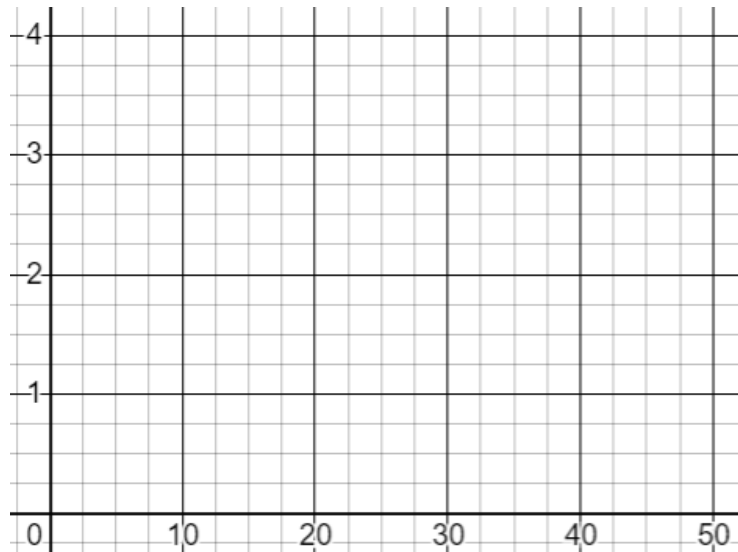
The distance travelled to work by 50 employees is recorded in a grouped frequency table.

(a) Calculate the frequency density for each class.

| Distance (km) | Frequency | | |
|------------------|-----------|--|--|
| $0 < d \leq 5$ | 12 | | |
| $5 < h \leq 10$ | 16 | | |
| $10 < h \leq 20$ | 10 | | |
| $20 < h \leq 30$ | 7 | | |
| $30 < h \leq 50$ | 5 | | |

(b) Plot a histogram.

(c) Use your histogram to estimate the number of people who travel at least 12 km to work.



(b)

The house prices of 100 houses in a village are recorded in a grouped frequency table.

(a) Use the information in the table to calculate frequency densities and plot a histogram.

(b) Use your histogram to estimate the percentage of houses that cost less than £270 000.

| House Price (£ thousands) | Frequency |
|---------------------------|-----------|
| $0 < p \leq 100$ | 6 |
| $100 < p \leq 200$ | 22 |
| $200 < p \leq 250$ | 18 |
| $250 < p \leq 300$ | 35 |
| $300 < p \leq 500$ | 15 |
| $500 < p \leq 1000$ | 4 |

(c)

The time taken, in minutes, by 50 students to solve a maths puzzle is recorded in a grouped frequency table.

(a) Plot a histogram to represent this data.

(b) Use your histogram to find the median time taken.

| Time Taken (minutes) | Frequency |
|----------------------|-----------|
| $0 < t \leq 2$ | 4 |
| $2 < t \leq 4$ | 7 |
| $4 < t \leq 5$ | 10 |
| $5 < t \leq 6$ | 12 |
| $6 < t \leq 7$ | 11 |
| $7 < t \leq 12$ | 6 |