



QUESTION WORKBOOK

Representing and interpreting data

Statistics · Year 12–13

7 questions · 21 marks

NAVY SCREEN EDITION

SECTION A · Warm-up

A1 In a histogram, the class $20 \leq x < 25$ has frequency 30. Find its frequency density.

[2]

A2 Another class, $10 \leq x < 30$, is drawn with frequency density 1.5. Find its frequency.

[2]

SECTION B · Standard

B1 In a histogram, the class $0 \leq x < 20$ has frequency 40. The bar for $20 \leq x < 25$ is drawn 1.6 times as tall. Find the frequency of the second class.

[3]

B2 A data set has $Q_1 = 20$ and $Q_3 = 36$. Using the $1.5 \times \text{IQR}$ rule, determine whether the values 62 and 58 are outliers.

[3]

- B3** On a box plot, the median line sits much closer to Q_1 than to Q_3 . Describe the skew, and what it says about the data. [2]

- B4** Two box plots show daily journey times for two routes. Route A: median 30 minutes, IQR 6 minutes. Route B: median 28 minutes, IQR 18 minutes. Compare the routes in context. [3]

SECTION C · Stretch

- C1** A histogram of 70 observations has four classes: $0 \leq x < 10$ with frequency density 1.2, $10 \leq x < 25$ with 2.4, $25 \leq x < 40$ with 1.0, and $40 \leq x < 60$ with 0.35. Estimate the number of observations below 20, and estimate the median. [6]