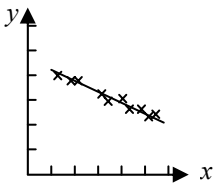


ANSWERS – DIAGNOSTIC TEST for Higher Students – Handling Data

TEST 1 of 2

- 1) a) (Strong or Good) Negative Correlation

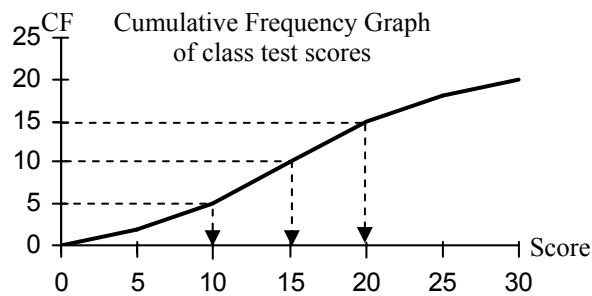


- b) No correlation and so no line of best fit.
- 2) i) $\frac{5}{50} = \frac{1}{10}$
 ii) $0.4 \times 0.3 + 0.6 \times 0.7 = 0.54$
 iii) $0.9^5 \times 0.8^2 = 0.3779136$ or 0.378 (3 s.f.)
 iv) $1 - [(\frac{1}{10} \times \frac{18}{20}) + (\frac{2}{10} \times \frac{1}{20}) + (\frac{7}{10} \times \frac{1}{20})] = \frac{173}{200}$
- 3) i) a) By asking leading questions, (or choosing a non-representative or too small a sample e.g. only people who fall within a certain age range).
 b) increasing the sample size
 ii) A is Primary Data, B is Secondary Data
 iii) 33, 33, 134 or 33, 34, 133 or 34, 33, 133 from BellyBean, CatHouse & AbieTree respectively.
- 4) i) Mean = 51.2 (midpoints 10, 30, 50, 70 multiplied by frequencies; summed; divided by sum of frequencies, 100).
 ii) Median = 0; mode = 0.
 iii) Lower quartile = 0; upper quartile = 3

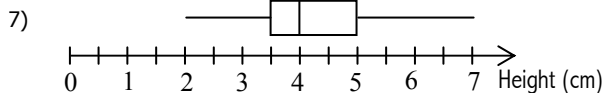
TEST 2 of 2

- 5) i) 44.6; 54.8; 67.
 ii) At game number 3
- 6) Plot the **upper class boundaries** against **Cumulative Frequencies (CF)**
 Include the starting point (0, 0). Join points with straight lines or smooth curve.

Upper Class Boundary of Score, S	CF
0	0
5	2
10	5
15	10
20	15
25	18
30	20

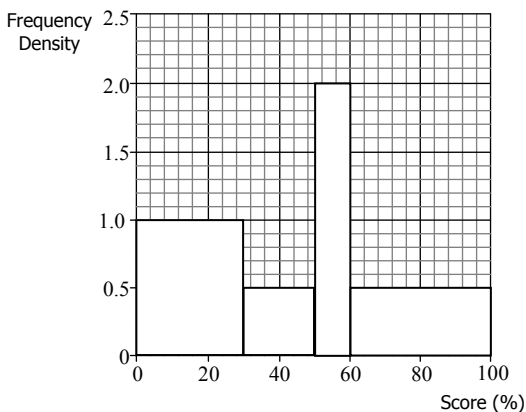


lower quartile 10; median 15; upper quartile 20.



8)

Score (%)	Frequency	Frequency Density
$0 \leq \% < 30$	30	$30 \div 30 = 1$
$30 \leq \% < 50$	10	$10 \div 20 = 0.5$
$50 \leq \% < 60$	20	$20 \div 10 = 2$
$60 \leq \% < 100$	20	$20 \div 40 = 0.5$



- 9) $0.6 \times 30 = 18$ people.