Multiple choice questions - Statistical sampling and data

Year: Year 12 · 10

Question 1 A sample in which every member has an equal chance of selection is

- ◯ **A.** quota
- ◯ **B.** simple random
- ◯ **C.** opportunity
- ◯ **D.** systematic only

Question 2 A stratified sample of 30 from 600 students, 200 of them in Year 12, has how many Year 12 students?

- ◯ **A.** 5
- ◯ **B.** 10
- ◯ **C.** 15
- ◯ **D.** 20

Question 3 Frequency density equals

- ◯ **A.** frequency $\times$ width
- ◯ **B.** frequency $\div$ width
- ◯ **C.** width $\div$ frequency
- ◯ **D.** frequency

Question 4 The IQR is

- ◯ **A.** $Q_3 - Q_1$
- ◯ **B.** $Q_3 + Q_1$
- ◯ **C.** max $-$ min
- ◯ **D.** median $-Q_1$

Question 5 The variance is the square of the

- ◯ **A.** mean
- ◯ **B.** median
- ◯ **C.** standard deviation
- ◯ **D.** range

Question 6 Extrapolation means predicting

- ◯ **A.** inside the data range
- ◯ **B.** outside the data range

- ◯ **C.** the mean
- ◯ **D.** the mode

Question 7 If $y = \frac{x - 10}{2}$ then the mean of x is

- ◯ **A.** $2\bar{y} + 10$
- ◯ **B.** $\frac{\bar{y}}{2} + 10$
- ◯ **C.** $2\bar{y} - 10$
- ◯ **D.** $\bar{y}$

Question 8 An outlier is usually more than how many IQRs beyond a quartile?

- ◯ **A.** 0.5
- ◯ **B.** 1
- ◯ **C.** 1.5
- ◯ **D.** 3

Question 9 Which sampling method is not random?

- ◯ **A.** Simple random
- ◯ **B.** Stratified
- ◯ **C.** Quota
- ◯ **D.** Systematic with random start

Question 10 Correlation shows

- ◯ **A.** causation
- ◯ **B.** a link between variables
- ◯ **C.** the mean
- ◯ **D.** the median

Answer grid - Statistical sampling and data

Year: Year 12

Question	Answer	Explanation
1	**B**	Definition.
2	**B**	$\frac{200}{600} \times 30$.
3	**B**	Height of bar.
4	**A**	Definition.
5	**C**	σ^2.
6	**B**	Outside range.
7	**A**	$x = 2y + 10$.
8	**C**	Standard rule.
9	**C**	Quota.
10	**B**	Not causation.