6. Statistics

Starter Quiz ·

AQA · GCSE · Mathematics Name: _____ Score: _____

1. Find the range of 2,4,4,6,9.

   _____

2. Find the density for frequency 30 and class width 10.

   _____

3. Find the IQR when Q1=12,Q3=21.

   _____

4. Find the sample walker proportion for 24 of 80.

   _____

5. Find pie angle for 10 of 40 students.

   _____

6. A line graph is the best display for unrelated categories.

   ☐ True ☐ False

7. Midpoints assume values sit in the middle of each class, so the result is only an estimate.

   ☐ True ☐ False

8. Correlation does not prove causation.

   ☐ True ☐ False

9. The line y=40+4.5x fits scores for 1-5 study hours. Why is the prediction at x=10 unreliable?

   ☐ The line has no gradient, so it cannot be used for prediction

   ☐ x=10 lies outside the observed range, so it is an extrapolation whose trend may not continue

   ☐ Because the predicted score of 85 is too large to be realistic

10. Equal medians say nothing about spread.

    ☐ True ☐ False

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1. **7.0**

   Range=maximum-minimum=9-2=7.

2. **3.0**

   Density=frequency/class width=30/10=3.

3. **9.0**

   IQR=Q3-Q1=21-12=9.

4. **0.3**

   24/80=0.3.

5. **90.0**

   10/40×360=90°.

6. **False**

   Unrelated categories suit a bar chart; a line graph suggests a continuous change, such as over time.

7. **True**

   True. Midpoints assume values sit in the middle of each class, so the result is only an estimate.

8. **True**

   True. Correlation does not prove causation; a third variable may affect both.

9. **x=10 lies outside the observed range, so it is an extrapolation whose trend may not continue**

   Within 1-5 the line interpolates between observed points. At x=10 the assumption that gains continue linearly is untested - improvement often flattens, so 85 is a speculation, not a measurement.

10. **True**

    True. Equal medians say nothing about spread; compare the IQR or the range.