Statistics – Grouped Data

Keywords:	Histogram / Frequency Density / Class Interval / Distribution / Cumulative / Frequency / Polygon / Median / Interquartile range / Box Plot / Estimated Mean

Definition / Description:	**Cumulative Frequency** diagram represents a running total of frequencies as a graph	**Box Plot** visually shows the distribution of data by identifying five points in a data set	**Interquartile range** measures the spread of data between the upper and lower quartiles. A small interquartile range shows consistent data	**Histogram** is a graphical representation of data points organised into ranges	**Frequency density** is the frequency per unit for the data in each class. It is used to plot histograms	**Class interval** is the numerical width of any class in a particular distribution, defined as the difference between the upper class limit and the lower class limit	**Estimated Mean** is the average using midpoints of grouped data.

Knowledge points:	**Cumulative Frequency:** 1. Calculate the running total 2. Plot at the Upper boundary of class 3. Join with a smooth curve	**Box Plot:** 5 points from data needed: 1. Minimum value 2. Lower quartile 3. Median 4. Upper quartile 5. Maximum value	**Interquartile range:** Subtract Lower quartile from Upper quartile	**Histogram:** 1. Find class width of each category 2. Divide frequency by class width to find Frequency Density	**Estimated Mean:** 1. Find midpoint of data range 2. Multiply each frequency by this midpoint to find a breakdown of total 3. Add up breakdown of totals to find final total 4. Divide final total by total frequency

Knowledge point examples:

Linked Knowledge Maps

Statistics – ungrouped data
Averages