Assignment: Data Organization
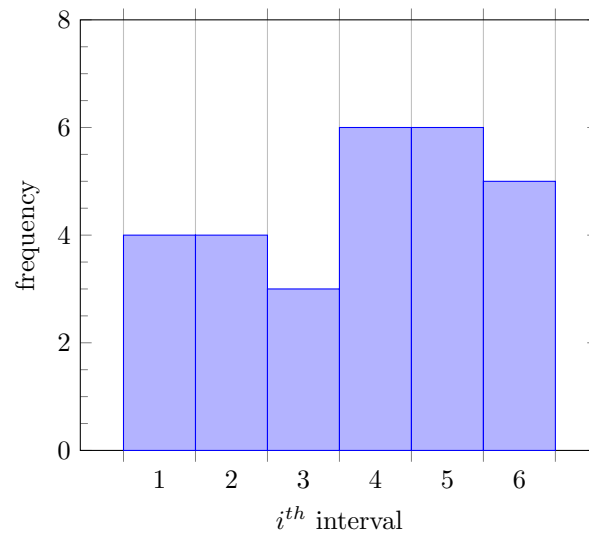
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1 Ungrouped Data

35.6, 66.9, 57.4, 73.3, 70.7, 48.6, 47.5, 68.8, 39.3, 40.8, 52.6, 55.4, 43.9, 58.8, 62.2, 68.3, 70.1, 64.9, 64.2, 45.7, 49.2, 56.4, 63.7, 39.8, 64.5, 60.0, 58.1, 45.9

2 Grouped Data

Grouped Frequency Distribution Table	
Class Interval	Frequency
35.6 - 41.1	4
42.1 - 47.6	4
48.6 - 54.1	3
55.1 - 60.6	6
61.6 - 67.1	6
68.1 - 73.6	5
Total:	**28**

3 Histogram

4 Cumulative Relative Frequency Table

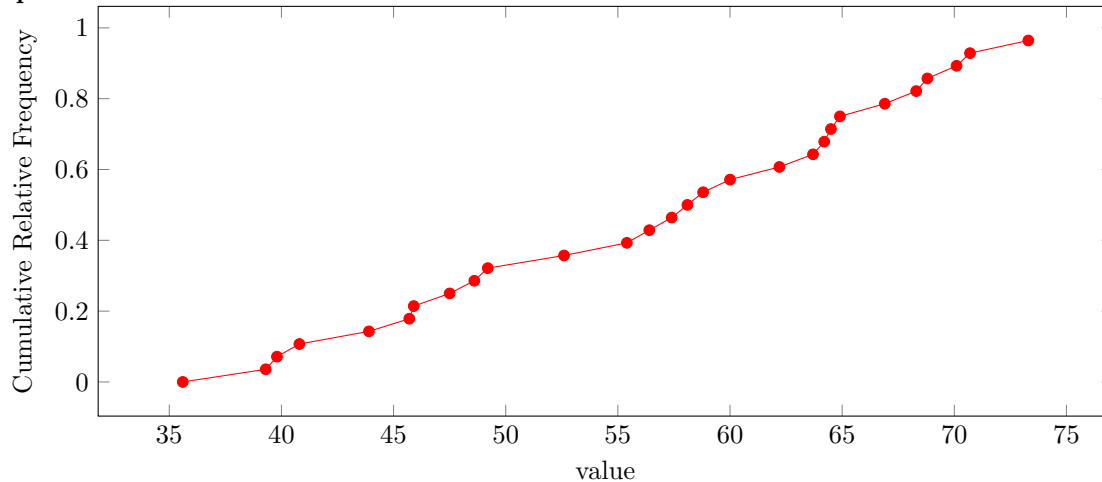| Cumulative Relative Frequency Table				
Class Interval	Frequency	Cumulative Frequency	Relative Frequency	Cumulative Relative Frequency
35.6 - 41.1	4	4	0.1429	0.1429
42.1 - 47.6	4	8	0.1429	0.2857
48.6 - 54.1	3	11	0.1070	0.3929
55.1 - 60.6	6	17	0.2143	0.6071
61.6 - 67.1	6	23	0.2143	0.8217
68.1 - 73.6	5	28	0.1786	1

5 Sorted Data (Ascending)

35.6, 39.3, 39.8, 40.8, 43.9, 45.7, 45.9, 47.5, 48.6, 49.2, 52.6, 55.4, 56.4, 57.4, 58.1, 58.8, 60.0, 62.2, 63.7, 64.2, 64.5, 64.9, 66.9, 68.3, 68.8, 70.1, 70.7, 73.3

6 Cumulative Relative Frequency Graph

$$PR = b/n \cdot 100\%$$

Graph 1

7 Questions

1. From the above cumulative relative frequency diagram, what a percent of data is greater than 50? [2A]

There are 18 values greater than 18.

$$18/28 \cdot 100\% \approx 64.29\%$$

Therefore, 64.29% of the data is greater than 50.

2. From the above cumulative relative frequency diagram, what value is the 40th percentile? [2A]

From the diagram we can see that at y-value 0.4, we approximate a value 54.3. This means the value 54.3 is greater than 40% of the data.

To find the exact value we can do this:

$$40\% \cdot (28 + 1) = 11.6$$

$$P_{40} = 52.6 + 0.6(55.4 - 52.6) = 54.28$$

Therefore, the value of the 40th percentile is 54.28.