

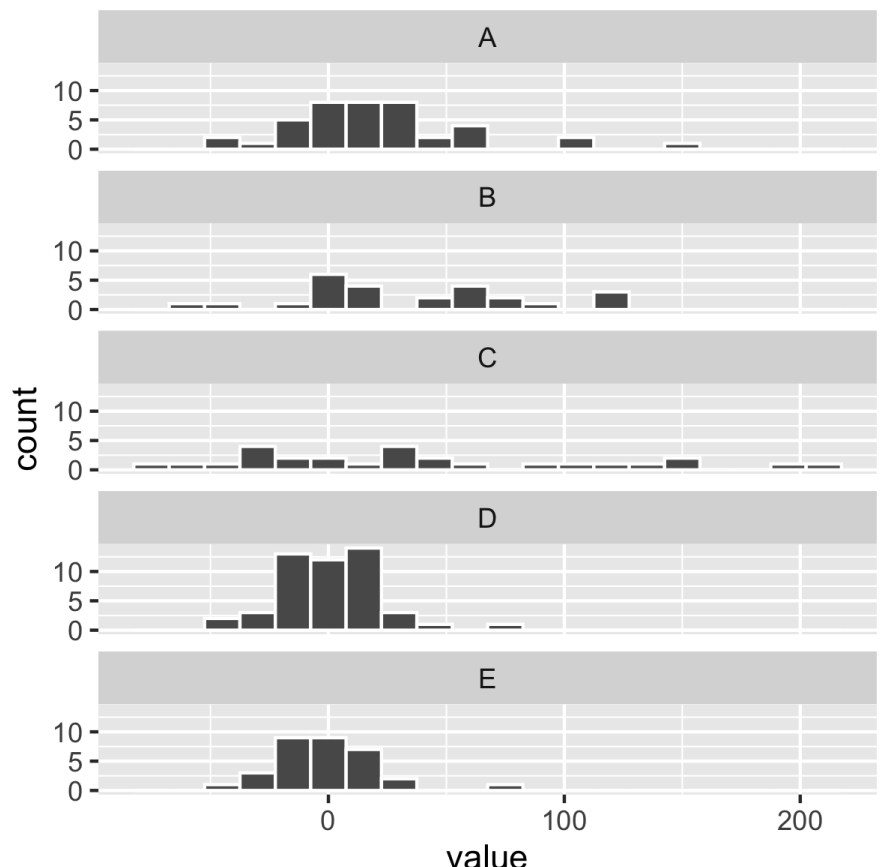
# Lesson 3: Describing Quantitative Data: Shape

## Preparation

### Solutions

Please note that the steps show rounded numbers, but that the final answers to the problems are calculated without rounding.

Problem	Part	Solution
1	Mean	It is the adding up the observed data and dividing by the number of observations in the data set.
1	Median	The median is the middle value in a sorted data set
1	Mode	The most frequently occurring value
2	Company A	Mean: 21.276 Median: 13.433 Mode -48.837209
2	Company B	Mean: 33.482 Median: 20.838 Mode -62.837689
2	Company C	Mean: 41.122 Median: 25.558 Mode -71.050584
2	Company D	Mean: 0.706 Median: 1.892 Mode -44.416873
2	Company E	Mean: -1.084 Median: -3.796 Mode -39.686099

Problem	Part	Solution
 <p>The figure displays five histograms, labeled A through E, each representing a different data distribution. The x-axis for all histograms is labeled 'value' and ranges from -100 to 200, with major tick marks at -100, 0, 100, and 200. The y-axis is labeled 'count' and ranges from 0 to 10, with major tick marks at 0, 5, and 10. Each histogram has a gray header bar with its label (A, B, C, D, or E) in the center.</p> <ul style="list-style-type: none"> <li><b>Histogram A:</b> The distribution is centered around 0. The counts are approximately: -50: 2, -25: 1, 0: 8, 25: 8, 50: 8, 75: 2, 100: 2, 150: 1.</li> <li><b>Histogram B:</b> The distribution is centered around 0. The counts are approximately: -50: 1, -25: 1, 0: 6, 25: 4, 50: 2, 75: 4, 100: 1, 150: 3.</li> <li><b>Histogram C:</b> The distribution is centered around 0. The counts are approximately: -50: 1, -25: 1, 0: 4, 25: 2, 50: 2, 75: 4, 100: 1, 150: 2, 200: 1.</li> <li><b>Histogram D:</b> The distribution is centered around 0. The counts are approximately: -50: 2, -25: 3, 0: 12, 25: 11, 50: 13, 75: 3, 100: 1.</li> <li><b>Histogram E:</b> The distribution is centered around 0. The counts are approximately: -50: 1, -25: 3, 0: 9, 25: 9, 50: 7, 75: 2, 100: 1.</li> </ul>		
3	-	
4	-	Answers will vary but should talk about shape, center, and spread of the different graphs and data sets.
5	-	Answers may vary, students should choose a company and justify why. They will probably choose B or C, because they have the highest means.