

16/17

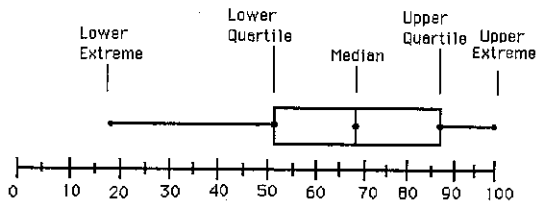
## Statistics: Dot Plots, Frequency Tables, Histograms, and Box and Whisker Plots

<p style="text-align: center;"><b>Dot Plots/Line Plots</b></p> <p><i>Number of Students in Freshman English classes at WFU</i></p> <div style="text-align: center;"> </div>	<p>a. Describe the data by its center.  Mean - <math>546 \div 15 = 36.4</math>  Median - 37  Mode - 37 and 38</p> <p>b. Is there an <b>outlier</b> and if so, how will this impact the measure of central tendency used to describe the center?  <b>30, USE THE MEDIAN</b></p> <p>c. Describe the data by its spread.  Range - <math>38 - 30 = 8</math>  MAD - <math>22 \div 17 = 1.47</math></p> <p>d. Describe the data by its shape.  Cluster - 35-38  Gap - 31-34  Outlier - 30</p>												
<p style="text-align: center;"><b>Frequency Tables</b></p> <p>The data represented in the table below was taken from a poll of students when asked how many absences they had in 5<sup>th</sup> grade.</p> <p>Complete the frequency table below:</p> <p style="text-align: center;"><i>Student Absences for 2008-2009 School Year</i></p> <table border="1" style="margin-left: auto; margin-right: auto; border-collapse: collapse;"> <tbody> <tr> <td style="padding: 2px;">0-4</td> <td style="padding: 2px;">//</td> <td style="padding: 2px;">2</td> </tr> <tr> <td style="padding: 2px;">5-9</td> <td style="padding: 2px;">    </td> <td style="padding: 2px;">8</td> </tr> <tr> <td style="padding: 2px;">10-14</td> <td style="padding: 2px;">     </td> <td style="padding: 2px;">10</td> </tr> <tr> <td style="padding: 2px;">15-19</td> <td style="padding: 2px;">    </td> <td style="padding: 2px;">4</td> </tr> </tbody> </table> <p style="text-align: right; margin-right: 50px;"><i>24 STUDENTS</i></p>	0-4	//	2	5-9		8	10-14		10	15-19		4	<p><b>Report:</b></p> <p>a. What are the <b>intervals</b> in the frequency table to the left? <b>5</b></p> <p>b. What is the <b>scale</b> in the frequency table to the left? <b>0-19</b></p> <p><b>Analyze:</b></p> <p>a. What is the difference in interval 15-19 and interval 10-14? <math>10 - 4 = 6</math></p> <p>b. How many times greater is the frequency of interval 5-9 than interval 0-4?  <b>4 TIMES GREATER</b></p> <p><b>Predict:</b></p> <p>a. Predict the frequency of interval 15-19 if there were 100 students surveyed  <del>About 16</del></p>
0-4	//	2											
5-9		8											
10-14		10											
15-19		4											
<p style="text-align: center;"><b>Histograms</b></p> <p style="text-align: center;"><i>Salaries for Krispy Kreme Employees</i></p> <div style="text-align: center;"> </div>	<p><b>Report:</b></p> <p>a. What is the <b>scale</b> and <b>interval</b> in the histogram to the left? <b>SCALE = 0-88+ INTERVAL = 11</b></p> <p>b. How many people make between \$77,000 and \$87,000 per year?  <b>350 PEOPLE</b></p> <p><b>Analyze:</b></p> <p>a. What is the difference in the number of employees in interval 44-54 and interval 33-43?  <math>550 - 400 = 150</math></p> <p>b. How many times greater is the frequency of interval 55-65 than interval 0-10?  <math>50 \times = 450 \quad x = 9 \text{ TIMES GREATER}</math></p> <p><b>Predict:</b></p> <p>a. Predict the frequency of interval 22-32 if the company tripled in size.  <math>250 \times 3 = 750</math></p>												

Key

Box and Whisker Plots

Math Scores - Superstars #12



Report:

a. What are the highest and lowest scores?

100                  6

b. Name the following:

upper extreme 100 lower extreme 6  
lower quartile 51 upper quartile 80  
median 68

Analyze:

a. What is the score range for someone whose grade was in the lower half of the class?

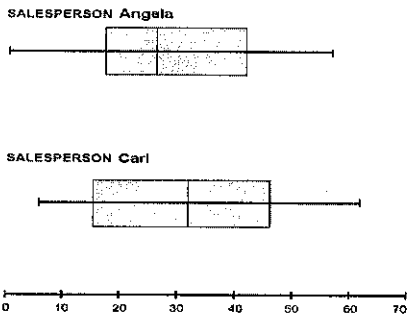
16-68

b. If someone scored a 90 on Superstars #12, which percentile would they be in?

UPPER 25% OF THE CLASS

Box and Whisker Plots

Sales @ Hollister



Report:

a. What is the median for Carl? Angela?

32                  26

Analyze:

a. Which Hollister salesperson had the best sales day?

CARL

b. What is the range of sales for Angela? Carl?

58-0 = 58                  62-5 = 57

Predict:

b. Predict the appearance of Angela's box and whisker plot if an outlier day of sales were 110?

THERE WOULD BE A STAR/DOT TO SHOW AN OUTLIER