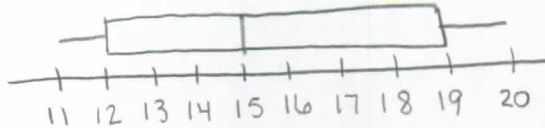


Make a box-and-whisker plot for each set of data.

1. 12 11 15 12 19 20 19 14 18 15 16

11 12 (12) 14 15 (15) 16 18 (19) 19 20  
Q1 Q2 Q3

Min: 11  
Q1: 12  
Med: 15  
Q3: 19  
Max: 20



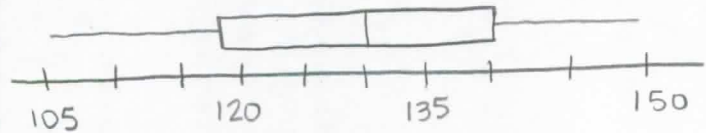
2. 120 145 133 105 117 150 130 136 128

105 117 120 128 (130) 133 136 145 150  
Q2

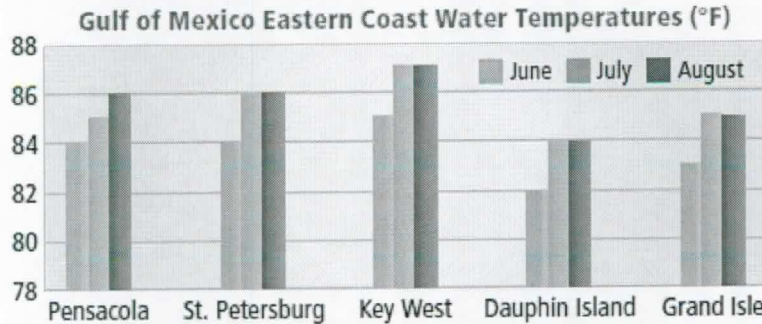
Q1:  $\frac{117+120}{2} = 118.5$

Min: 105  
Q1: 118.5

Med: 130  
Q3: 140.5  
Max: 150

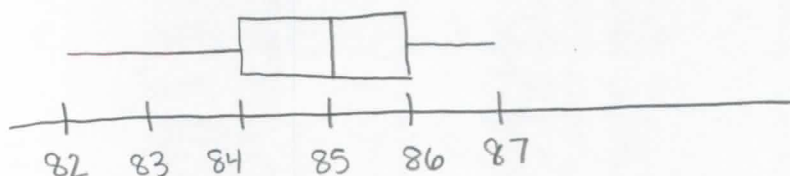


3. Use the water temperature data for the eastern coast of the Gulf of Mexico during the summer months. Find the quartiles by graphing a box-and-whisker plot. What information can you get from the graph?



82 83 84 (84) 84 84 85 (85) 85 85 86 (86) 86 87 87  
Q1 Q2 Q3

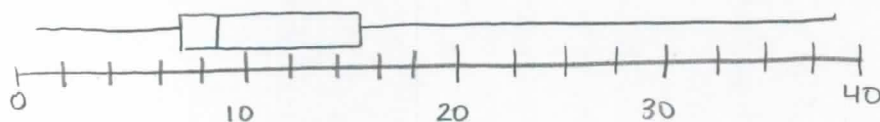
Min: 82  
Q1: 84  
Med: 85  
Q3: 86  
Max: 87



4. On May 3, 1999, 59 tornadoes hit Oklahoma in the largest tornado outbreak ever recorded in the state. Sixteen of these were classified as strong (F2 or F3) or violent (F4 or F5).
- Make a box-and-whisker plot of the data for the length of path.
  - Identify outliers. Remove them from the data set and make a revised box-and-whisker plot.
  - How does the removal of the outliers affect the box-and-whisker plot? How does it affect the median of the data set?

1 2 4 6 | 7 7 8 8 | 9 12 13 15 | 15 22 37 39

Min: 1  
 Q1: 6.5  
 Med: 8.5  
 Q3: 15  
 Max: 39  
 IQR = 8.5



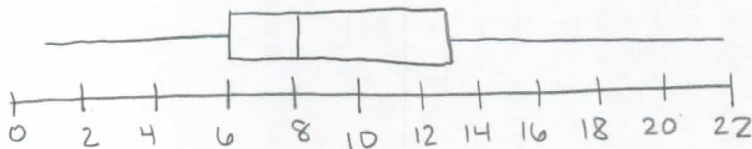
b) Outliers above 27.75  
 would be 37, 39

c) Removal of outliers shortens whiskers.

1 2 4 6 7 7 8 | 8 9 12 13 15 15 22

Q1 Q3

Min: 1  
 Q1: 6  
 Med: 8  
 Q3: 13  
 Max: 22



Major Tornadoes in Oklahoma, May 3, 1999

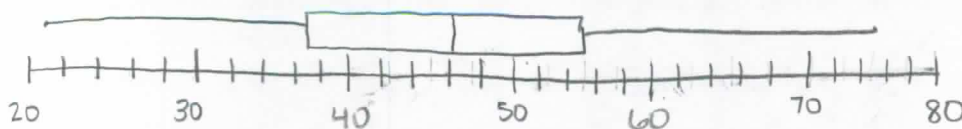
Length of Path (miles)	Intensity
6	F3
9	F3
4	F2
37	F5
7	F2
12	F3
8	F2
7	F2
15	F4
39	F4
1	F2
22	F3
15	F3
8	F2
13	F3
2	F2

SOURCE: National Oceanic & Atmospheric Administration

5. The total number of points scored by both teams in each of the first 48 Super Bowl games are listed below. Make a box-and-whisker plot for the scores. Identify any outliers.

45, 47, 23, 30, 29, 27, 21, 31, 22, 38, 46, 37, 66, 50, 37, 47, 44, 47, 54, 56, 59, 52, 36, 65, 39, 61, 69, 43, 75, 44, 56, 55, 53, 39, 41, 37, 69, 61, 45, 31, 46, 31, 50, 48, 56, 38, 65, 51

Min: 21  
 Q1: 37  
 Med: 46  
 Q3: 55.5  
 Max: 75



IQR: 18.5

1.5(IQR): 27.75

no outliers