

**Box-and-Whisker Plots – Day 3**  
Unit 8: Statistics

Draw a box-and-whisker plot for each data set.

1.

**Injuries Due to Distracted Driving per Month**

10,949	6,920	4,413	6,941	6,103	7,319
8,793	9,709	8,654	6,750	9,983	8,214
7,197	8,436	7,593	11,133	5,761	9,232
6,191	7,664	10,140	6,738	7,252	

min  
4413

Q1  
6750

Q2  
7456

Q3  
8793

max  
11133

$$IQR = 2043$$

2.

**Age at First Job**

22	14	22	15	20	13
18	17	18	19	13	18
15	20	16	12	12	17
19	17	16	18	18	

min  
12

Q1  
15

Q2  
17

Q3  
19

max  
22

$$IQR = 4$$

3.

**2012 Summer Olympics**

Country	Medals	Country	Medals	Country	Medals
Tunisia	3	France	34	Japan	38
Kenya	11	Russia	81	Argentina	4
Turkey	5	Netherlands	20	Germany	44
		Iran	12		

min  
3

Q1  
5

Q2  
16

Q3  
38

max  
81

$$IQR = 33$$

Draw a box-and-whisker plot for each data set.

4.

Age Assumed Office

Senator	Age	Senator	Age	Senator	Age
Tammy Baldwin	50	Jim Inhofe	60	Bill Nelson	58
Debbie Stabenow	50	Angus King	68	Mike Johanns	58
Jack Reed	47	Michael Bennet	44	Deb Fischer	61

$$\frac{\text{min}}{44}$$

$$\frac{Q1}{48.5}$$

$$\frac{Q2}{58}$$

$$\frac{Q3}{60.5}$$

$$\frac{\text{max}}{68}$$

$$IQR = 12$$

5.

Games per World Series

6	6	7	5	4	7
5	4	7	6	7	7
5	7	5	7	5	6
7	5	7	7		

$$\frac{\text{min}}{4}$$

$$\frac{Q1}{5}$$

$$\frac{Q2}{6}$$

$$\frac{Q3}{7}$$

$$\frac{\text{max}}{7}$$

$$IQR = 2$$

6.

Nobel Laureates

Name	Age	Name	Age	Name	Age
Gejong Tenzin Gyatso	54	Günter J. Blobel	63	Leymah Roberta Gbowee	39
Roger David Kornberg	59	Muhammad Yunus	66	John Edward Sulston	60
Eliezer "Elie" Wiesel	58	Roger Yonchien Tsien	56	Alan Jay Heeger	64
Nicolaas Bloembergen	61	William David Trimble	54	Peter Charles Doherty	56
Richard Timothy "Tim" Hunt	58	Joseph Eugene Stiglitz	58	Charles Hard Townes	49
Harald zur Hausen	72	Burton Richter	45	Eric Francis Wieschaus	48
Richard Edward Taylor	61	Leo Esaki	48	Walter Gilbert	48

$$\frac{\text{min}}{39}$$

$$\frac{Q1}{48.5}$$

$$\frac{Q2}{58}$$

$$\frac{Q3}{61}$$

$$\frac{\text{max}}{72}$$

$$IQR = 12.5$$

① 23 total numbers

Lower half of data (11 numbers)

4413, 5761, 6103, 6191, 6738, 6750, 6920, 6941, 7197, 7252, 7319  
min ↑ Lower Quartile (Q1)

Median (Q2)

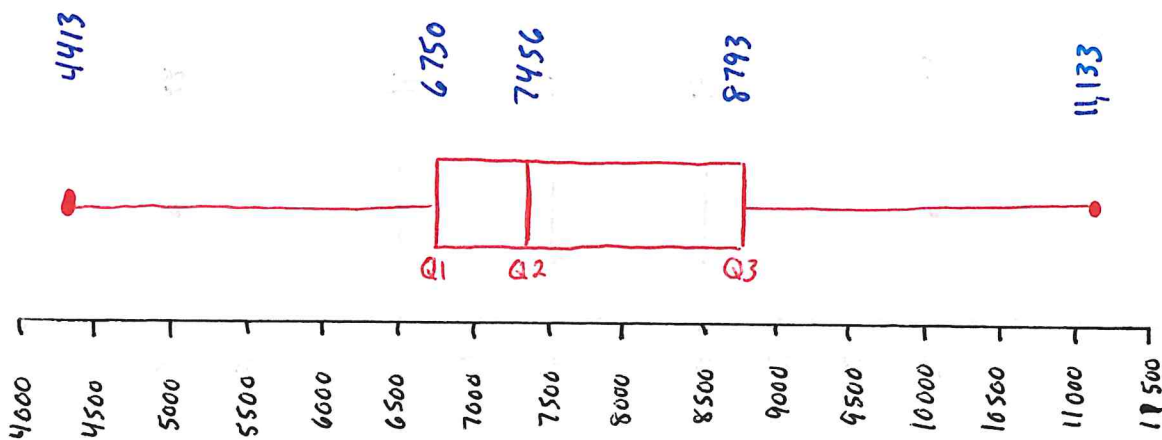
$$\frac{\text{Last of lower} + \text{First of upper}}{2} = \frac{7319 + 7593}{2} = \frac{14912}{2} = 7456$$

Upper half of data (11 numbers)

7593, 7664, 8214, 8436, 8654, 8793, 9232, 9709, 9983, 10140, 10949, 11133  
↑ Upper Quartile (Q3) ↑ max

$$IQR = Q3 - Q1 = 8793 - 6750 = \boxed{2043}$$

$$\text{Range} = \text{Max} - \text{Min} = 11133 - 4413 = 6720$$



② 23 total numbers

Lower half of data (11 numbers)

12, 12, 13, 13, 14, 15, 15, 16, 16, 17, 17  
min ↑ Lower Quartile (Q1)

Median (Q2)

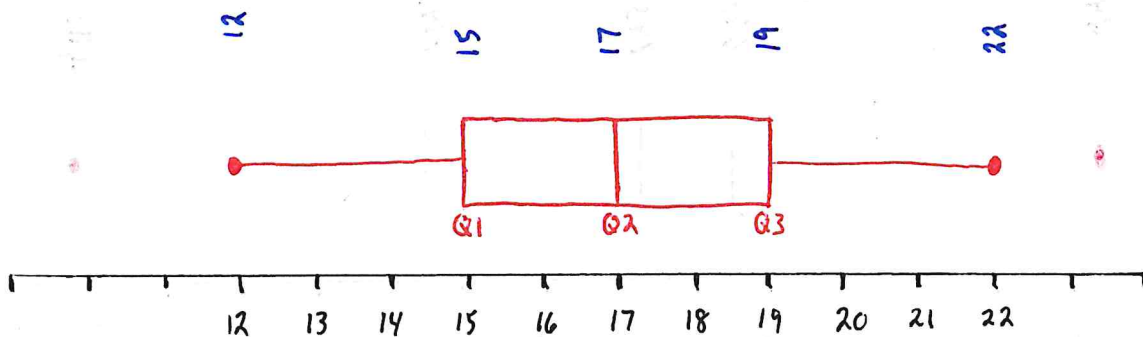
17

Upper half of data (11 numbers)

18, 18, 18, 18, 18, 19, 19, 20, 20, 22, 22  
↑ max  
Upper Quartile (Q3)

$$IQR = Q3 - Q1 = 19 - 15 = 4$$

$$Range = Max - Min = 22 - 12 = 10$$





④ 9 total numbers

Lower half of data (4 numbers)

min → 44, 47, 50, 50

Lower Quartile (Q1)

$$\frac{47+50}{2} = \frac{97}{2} = 48.5$$

Median (Q2)

58

Upper half of data (4 numbers)

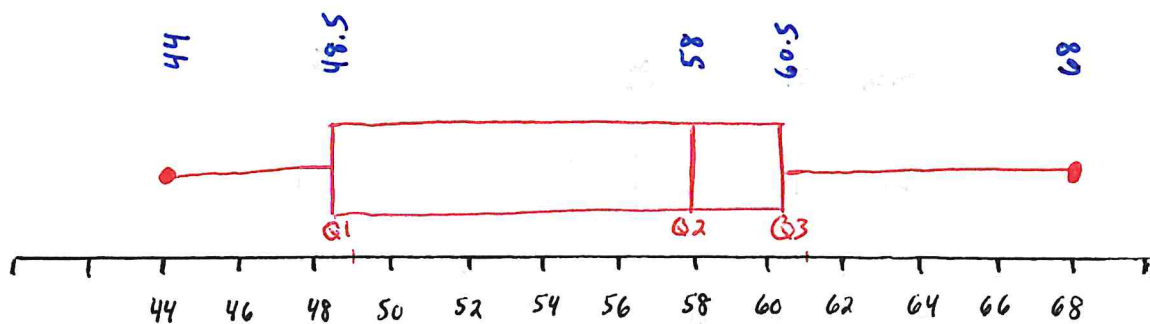
58, 60, 61, 68 ← max

Upper Quartile (Q3)

$$\frac{60+61}{2} = \frac{121}{2} = 60.5$$

$$IQR = Q3 - Q1 = 60.5 - 48.5 = \boxed{12}$$

$$Range = Max - min = 68 - 44 = 24$$





⑥ 21 total numbers

Lower half of data (10 numbers)

→ 39, 45, 48, 48, 48, 49, 54, 54, 56, 56.  
min

Lower Quartile (Q1)

$$\frac{48+49}{2} = \frac{97}{2} = 48.5$$

Median (Q2)

58

Upper half of data (10 numbers)

58, 58, 59, 60, 61, 61, 63, 64, 66, 72 ← max

Upper Quartile (Q3)

$$\frac{61+61}{2} = \frac{122}{2} = 61$$

$$IQR = Q3 - Q1 = 61 - 48.5 = \boxed{12.5}$$

$$Range = Max - Min = 72 - 39 = 33$$

