Find the mean, median, mode and range for the data set.

1. 3, 5, 8, 1, 4, 11, 3

mean = 5   median = 4   mode = 3   range = 10

2. 201, 201, 200, 199, 199

mean = 200   median = 200   mode = 199, 201   range = 2

3. 60, 53, 53, 52, 53, 55, 55, 57

mean = 54.75   median = 54   mode = 53   range = 8

Find the minimum, lower quartile (Q1), median (Q2), upper quartile (Q3), and maximum values for each data set.

4. 311, 309, 312, 314, 399, 312

309, 311, 312, 312, 314, 399
        ↑Q1   ↑Q2   ↑Q3

min = 309, Q_1 = 311, Q_2 = 312, Q_3 = 314, max = 399

5. 68, 99, 73, 65, 67, 62, 80, 81, 83

min = 62, Q_1 = 66, Q_2 = 73, Q_3 = 82, max = 99

6. 17, 9, 10, 17, 18, 5, 2

min = 2, Q_1 = 5, Q_2 = 10, Q_3 = 17, max = 18

Find the mean and median of the data set, and then identify any outliers. If the set has an outlier, find the mean and median without the outlier, and state which measure is affected more by the removal of this value.

7. 210, 45, 10, 108, 452, 225, 35, 95, 140, 25, 65, 250

10, 25, 35, 45, 65, 95, 108, 140, 210, 225, 250, 452
          40   ↑Q1   101.5   ↑217.5
     no outliers Q_2 Q_3

mean = 138.3   median = 101.5

8. 25, 35, 45, 30, 65, 50, 25, 100, 45, 35, 5, 105, 110, 190, 40, 30, 80

5, 25, 25, 30, 30, 35, 35, 40, 45, 45, 50, 65, 80, 100, 105, 110, 190
                ↑30   ↑45   ↑90
                 Q_1 Q_2 Q_3

$Q_3 - Q_1$ → 90 − 30 = 60

Q_1 − 1.5(60) Q_3 + 1.5(60)
30 − 1.5(60)   90 + 1.5(60)
−60   180

mean is affected more

outlier = 190   mean with outlier = 59.7   mean w/out outlier = 51.6
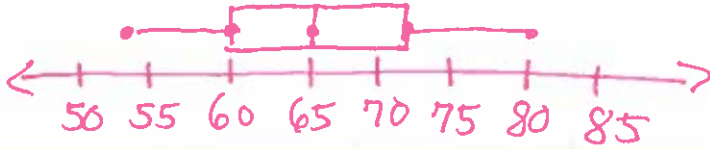   median with outlier = 45   median w/out outlier = 42.5

Draw the box-and-whisker plot and give the five-number summary for each data set.

~~9. 54, 60, 58, 65, 62~~

9. 54, 58, 62, 63, 65, 67, 70, 77, 80

↑ min   60   ↑ Q_1 ↑ Q_2 73.5   ↑ Q_3 ↑ max

```
        50  55  60  65  70  75  80  85
```

10. 58, 59, 59, 64, 64, 67, 69, 71, 72, 75, 76, 80, 83, 84, 84

↑ min   ↑ Q_1 ↑ Q_2 ↑ Q_3 ↑ max

```
       50  55  60  65  70  75  80  85  90
```