1) The heights (in inches) of students in a statistics class are given below.

| 52 | 54 | 55 | 56 | 56 | 56 | 58 | 59 | 60 | 61 | 61 | 63 | 65 | 67 | 68 | 68 | 70 | 71 | 72 |

a) Identify the 5-number summary (minimum, Q_1, Q_2, Q_3, maximum)

b) Find the interquartile range (IQR)

c) Make a box-and-whisker plot of the data

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 ◄──┼──┼──┼──┼──┼──┼──┼──┼──┼──┼──┼──┼──┼──┼──┼──┼──┼──┼──┼──►
    52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72
```
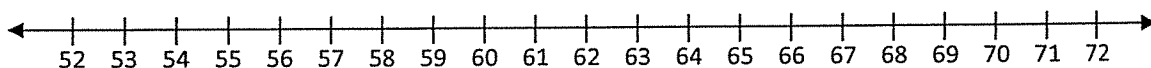
2) The weights (in pounds) of the defensive players on a high school football team are given below.

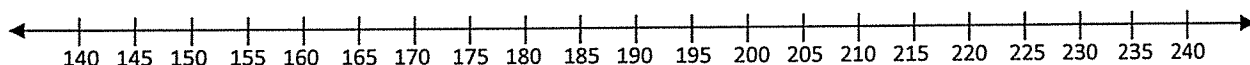| 173 | 145 | 205 | 192 | 197 | 227 | 156 | 240 | 172 | 185 | 208 | 185 | 190 | 167 | 212 | 228 | 190 | 184 | 195 |

a) Identify the 5-number summary (minimum, Q_1, Q_2, Q_3, maximum)

b) Find the interquartile range (IQR)

c) Make a box-and-whisker plot of the data

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 ◄──┼───┼───┼───┼───┼───┼───┼───┼───┼───┼───┼───┼───┼───┼───┼───┼───┼───┼───┼───┼───►
    140 145 150 155 160 165 170 175 180 185 190 195 200 205 210 215 220 225 230 235 240
```

3) Using the box-and-whisker plot at the right,

a) Identify the value for the minimum

b) Identify the value for the first quartile, Q_1

c) Identify the value for the second quartile, Q_2

d) Identify the value for the third quartile, Q_3

e) Identify the value for the maximum

f) Find the interquartile range (IQR)

g) Approximately what percent of the data are between 8 and 32?

h) Approximately what percent of the data are between 16 and 32?

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 ◄─┼┼┼┼┼┼┼┼┼┼┼┼┼┼┼┼┼┼┼┼┼─►
   0   4   8   12  16  20  24  28  32  36  40
```
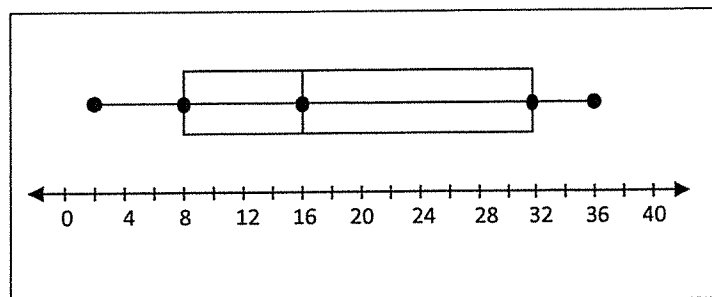
4) A student's test grade of 68 represents the 77^{th} percentile of the grades. What percent of students scored higher than 68?

5) In 2007, there were 768 "oldies" radio stations in the United States. If one station finds that 84 stations have a larger daily audience than it has, what percentile does this station come closest to in the daily audience rankings?

6) A student's SAT score of 1230 is in the 8^{th} decile for the students who took the SAT in 2017. What is the percentile for this score?

7) The 50^{th} percentile is equivalent to which quartile?

8) The weight of 10 high school football players have a bell-shaped distribution, with a mean of 186 pounds and a standard deviation of 18 pounds. Find the z-scores for each of the following weights of randomly selected football players. Determine which, if any, of these are unusual (or very unusual).
   a) 213 pounds

   b) 141 pounds

   c) 178 pounds

   d) 249 pounds

9) The mean price of new homes from a sample of houses is $155, 000$ with a standard deviation of $15,000. The data set has a bell-shaped distribution. Find the z-scores for the following house prices, and use the z-scores to determine which, if any, of the following house prices is unusual (or very unusual).
   a) $200,000

   b) $55,000

   c) $175,000

   d) $122,000

10) What does a z-score of 0 indicate?

11) What does a negative z-score indicate?

12) What does a positive z-score indicate?

13) Between which standard deviations does a z-score of 1.5 occur?

14) Using a standard bell curve, what percent of scores lie between a z-score of -1.0 and 1.0?