4. The first and third quartiles
   a. The location of the median is \( \frac{n}{2} \), the first quartile’s location is \( \frac{n}{4} \), and the third quartile’s location is \( \frac{3n}{4} \).
   
   b. Sample size divided by four equals 15/4 = 3.75. Counting down the frequency distribution on the previous page reveals that the first quartile is near the middle of the second class.
   
   c. \( \frac{3n}{4} = \frac{3 \times 15}{4} = \frac{45}{4} = 11.25 \) Counting down reveals the third quartile is in the fourth class.

\[
Q_1 = L + \frac{\frac{n}{4} - CF_b}{f} (i) = 59.5 + \frac{15 - 2}{4} (10) = 59.5 + 3.75 \times 2 (10) = 65.3
\]
\[
Q_2 = 74.5
\]
\[
Q_3 = L + \frac{\frac{3n}{4} - CF_b}{f} (i) = 79.5 + \frac{45 - 10}{3} (10) = 79.5 + 11.25 \times 10 (10) = 83.7
\]

65.3 74.5 83.7

C. Interquartile range
   1. The interquartile range is the difference between \( Q_3 \) and \( Q_1 \).
   2. \( Q_3 - Q_1 = 83.7 - 65.3 = 18.4 \)

D. Percentiles
   1. Percentiles separate data into 100 parts.
   2. Let \( x \) equal the percentile of interest.
   3. Here, the 90th percentile of daily rentals beginning 1/2/98 is of interest.
   4. The location of the 90th percentile is found using this expression.

\[
\frac{x}{100} = \frac{0.90(15)}{100} = 13.5
\]

\[
P_x = L + \frac{\frac{x}{100} - CF_b}{f} (i) = 89.5 + \frac{13.5 - 15}{2} (10) = 89.5 + 13.5 \times 15 \times 2 = 92.0
\]

VI. Kurtosis describes the peak of a curve.

- A platykurtic curve is flat, items are evenly distributed.
- A mesokurtic curve is not flat or peaked.
- A leptokurtic curve is thin, items are concentrated in the middle.