

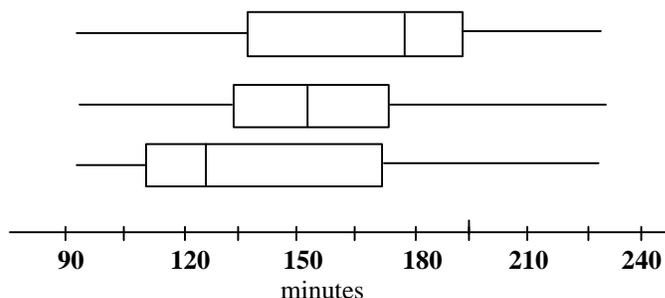
## Box and Whisker Plots and Measures of Central Tendency Additional Problems

1. The chart below gives average precipitation for Baltimore, Maryland for a number of years starting in 1974.

Year	Precipitation (in inches)	Year	Precipitation (in inches)
1974	41	1985	41
1975	62	1986	38
1976	44	1987	39
1977	40	1988	36
1978	45	1990	43
1979	61	1991	30
1980	32	1992	39
1983	58	1993	45
1984	38	1994	41

Source: <http://www.cdc.noaa.gov/cgibin/USclimate/rankall.calc.pl>

- **Create a box and whisker plot using this data.**
  - Describe the relationship between the mean and the median based on your box and whisker plot. Use mathematics to justify your answer.
  - State what this relationship tells you about the average precipitation for Baltimore. Use mathematics and the original data from the chart to justify your answer.
2. The following parallel box plots show the effective duration of three over-the-counter pain relievers.



Which of the following statements is true?

- a. The medians for the pain relievers are different but the means are the same.
- b. All of the pain relievers are equally effective because they all have the same range.
- c. Data for the middle pain reliever is approximately symmetric.
- d. The basic shape of the data is the same for all three pain relievers.