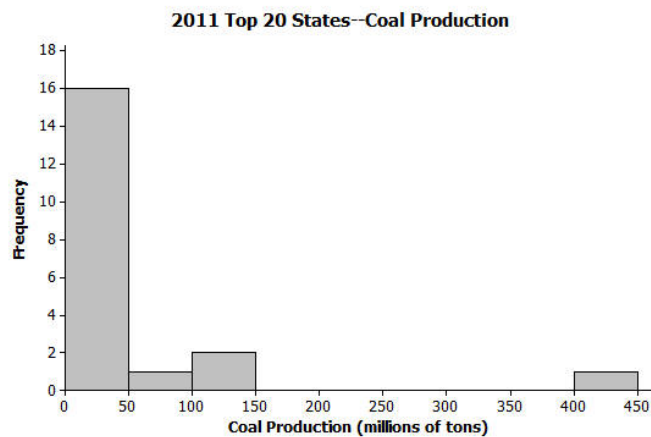


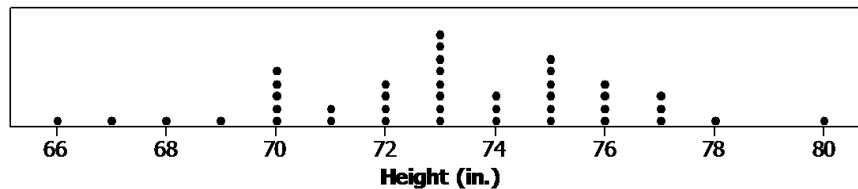
Problem Set

1. The following histogram shows the amount of coal produced (by state) for the 20 largest coal-producing states in 2011. Many of these states produced less than 50 million tons of coal, but one state produced over 400 million tons (Wyoming). For the histogram, which *one* of the three sets of summary measures could match the graph? For each choice that you eliminate, give at least one reason for eliminating the choice.



Source: U.S. Coal Production by State data as reported by the National Mining Association from http://www.nma.org/pdf/c_production_state_rank.pdf, accessed May 5, 2013

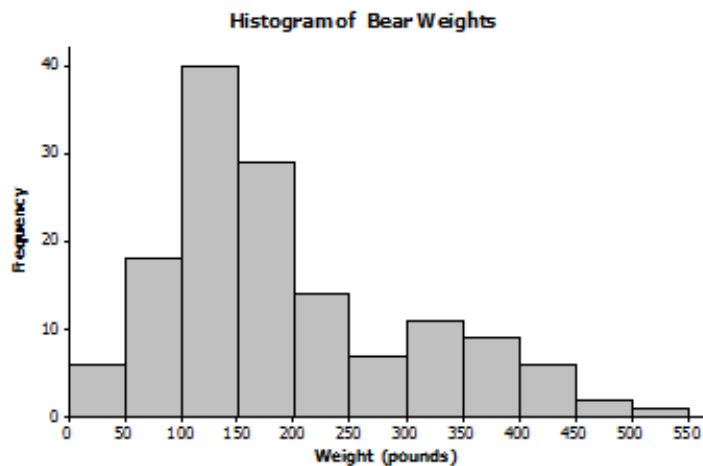
- Minimum = 1, Q1 = 12, Median = 36, Q3 = 57, Maximum = 410; Mean = 33, MAD = 2.76
 - Minimum = 2, Q1 = 13.5, Median = 27.5, Q3 = 44, Maximum = 439; Mean = 54.6, MAD = 52.36
 - Minimum = 10, Q1 = 37.5, Median = 62, Q3 = 105, Maximum = 439; Mean = 54.6, MAD = 52.36
2. The heights (rounded to the nearest inch) of the 41 members of the 2012–2013 University of Texas Men's Swimming and Diving Team are shown in the dot plot below.



Source: <http://www.texassports.com> accessed April 30, 2013

- Use the dot plot to determine the 5-number summary (minimum, lower quartile, median, upper quartile, and maximum) for the data set.
- Based on this dot plot, make a histogram of the heights using the following intervals: 66 to < 68 inches, 68 to < 70 inches, and so on.

3. Data on the weight (in pounds) of 143 wild bears are summarized in the histogram below.



Which *one* of the three dot plots below could be a dot plot of the bear weight data? Explain how you determined which the correct plot is.

