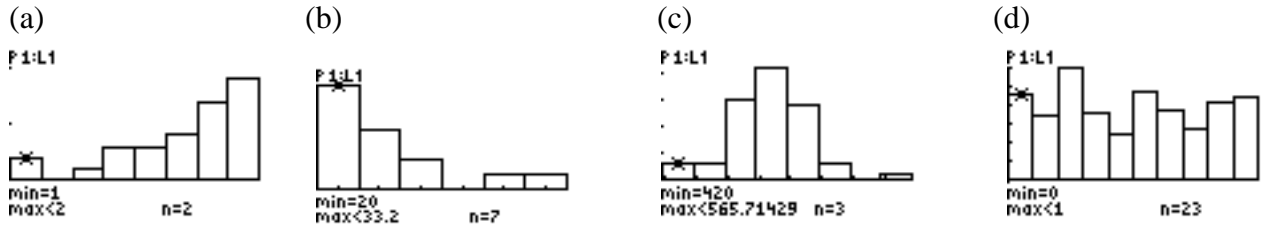


A.P. Statistics  
Assignment 1.14

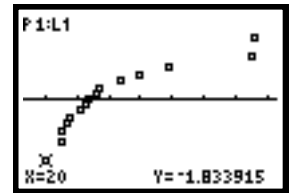
As always, briefly explain your thinking in your responses. Be sure to convince me that you understand.

1. Which of the following histograms would be best approximated by a normal distribution:



2. The plot shown is a normal probability plot for a set of data. The data value is plotted on the x-axis, and the standardized value is plotted on the y-axis. Which statement is true for this data set?

- (a) The data are clearly normally distributed.
- (b) The data are approximately normally distributed.
- (c) The data are clearly skewed to the right.
- (d) The data are clearly skewed to the left.
- (e) There is insufficient information to determine the shape of the distribution.



3. Grey Kangaroos are large, social marsupials, indigenous to Australia. The Eastern Greys are a light grayish brown, while the Western Grey is a copper brown color. As part of a study of the development of these creatures, biologists have measured various aspects of their skeletal structure. A sample of 148 palate widths was taken from skeletal remains and the data is presented in the stem-and-leaf plot below. The distributions of skeletal measures are generally thought to be approximately normal, which is consistent with the stem-and-leaf plot for this sample. The display uses five lines for each stem. Thus, "2t|" is the stem for palate widths of 22 and 23, "2f|" for 24 and 25, "2s|" for 26 and 27, and so on. (The "t" then stands for leaves that are twos and threes, the "f" for leaves of fours and fives, etc.) The mean palate width of this sample is 2.6 cm, and the standard deviation is 0.3 cm.

Palate Width - Grey Kangaroos

```

1|0 = 1 cm N = 124

1. |
1t|
1f|
1s|77
1*|89
2. |011111111111
2t|2222222222233333333333
2f|4444444444444444455555555555
2s|66666666666667777777
2*|88888888888889999999999999
3. |0000011
3t|223
3f|
3s|
3*|

```

- (a) Comment on the normality of the data based upon the stemplot.

<type answer here>

- (b) Assess the normality of the data as it pertains to the empirical rule. Be sure to show your calculations and thinking.

<type answer here>

4. Describe in detail and your own words how you use a normal probability plot to assess normality.

<type answer here>