Today's AGENDA

1) Quiet Reading (or work on HW if not complete - approx. 20 min)
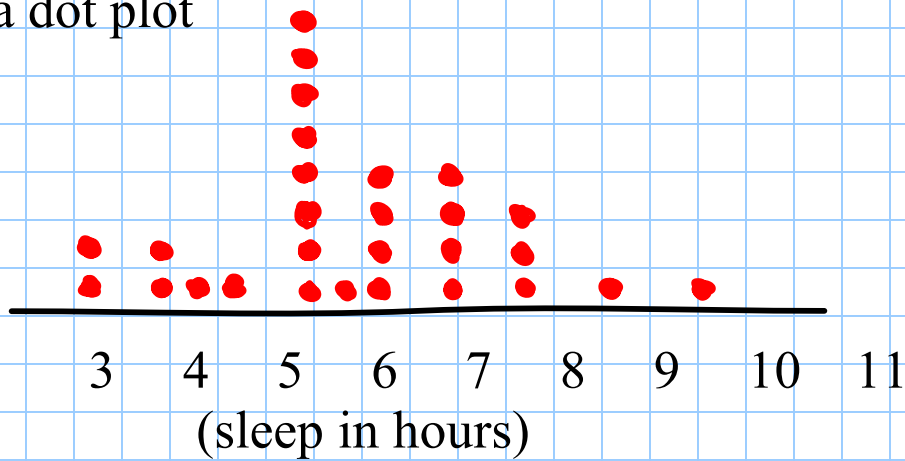
2) Review HW and Format

3) New Material
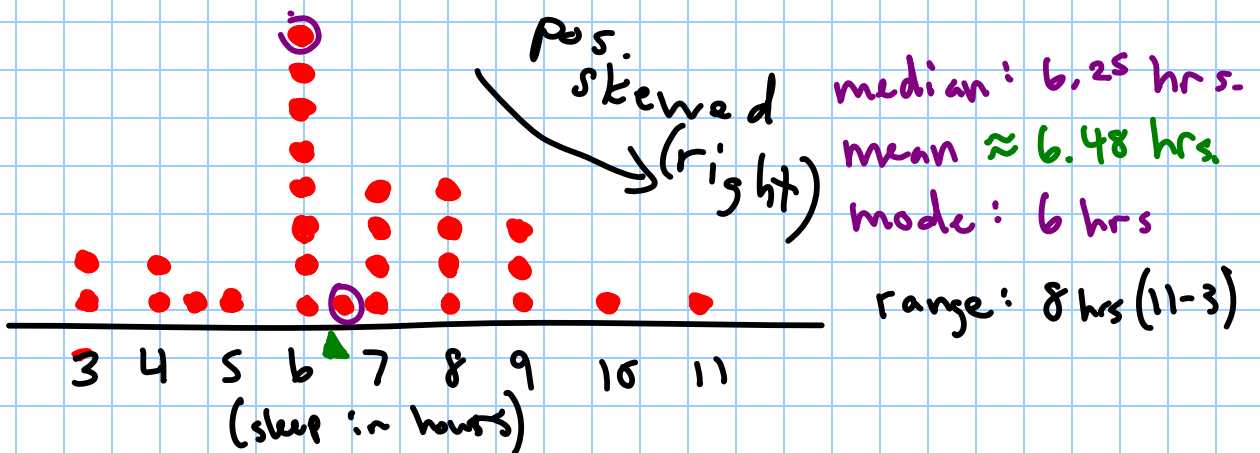
4) Game time?

** QUIZ #2 - on Tuesday!

Stats & probability HW - Displaying quantitative data WS
Problems # 37, 39, 51, 56, 58, and 60
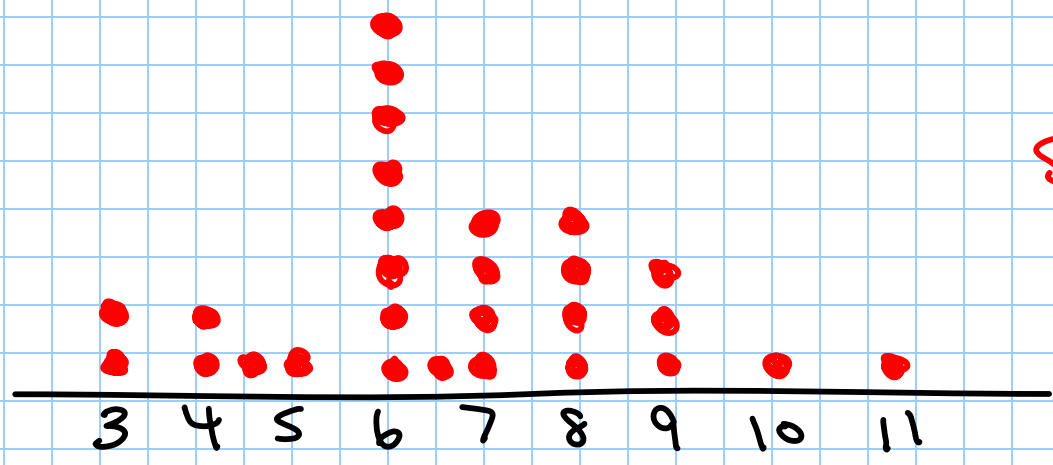
37) How much sleep did you get last night? (in hours)

a) Make a dot plot

(sleep in hours)

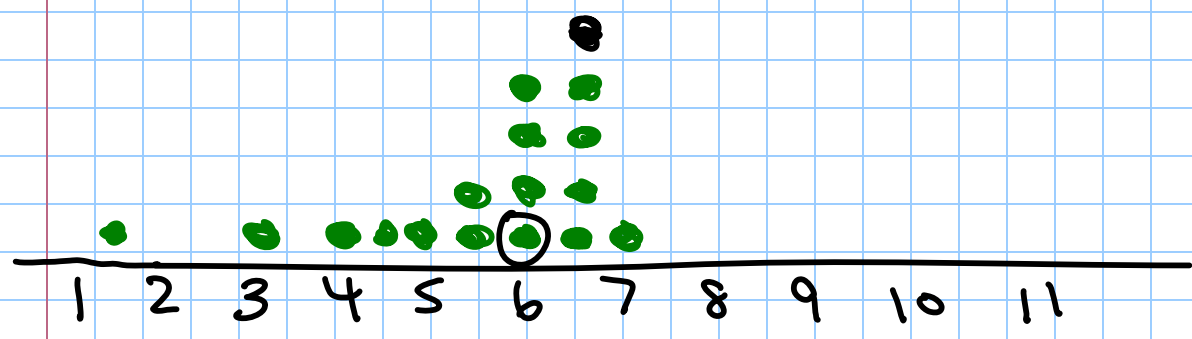b) describe the distribution: (*shape, center, spread*)

pos.
skewed
→(right)

3 4 5 6 7 8 9 10 11
(sleep in hours)

median: 6.25 hrs.
mean ≈ 6.48 hrs.
mode: 6 hrs

range: 8 hrs (11-3)

Sample

3 4 5 6 7 8 9 10 11

Our class

1 2 3 4 5 6 7 8 9 10 11

#39) U.S. Women's soccer team (dot plot given)
    a) Explain what dot above -1 represents:

        It means the U.S. Women's team scored 1 less goal that their
           opponent in that game

    b) What does the graph tell us about how well the team
    did in 2012?

    The graph shows us that the team won 21 games, they tied 3
games, and only lost 1 game. Of the 21 games they won, 6 games
were won by 1 goal, another 6 were won by 3 goals (bimodal). The
majority of their games were won by 2 goals or more (15 games).
They even had 2 games that they won by more than 10 goals!

#51) Stock returns: Histogram given of the distribution of the monthly returns for all common stocks listed in U.S. over 273 months (this nearly 23 year period *includes crash of Oct 1987*)

   a) Describe the shape of distribution:
   Range of 37.5% (from 12.5% down to -25%)
   Skewed left or *negatively skewed* due to the low value within the interval from -25% to <-22.5%)

   b) What is the approximate center?
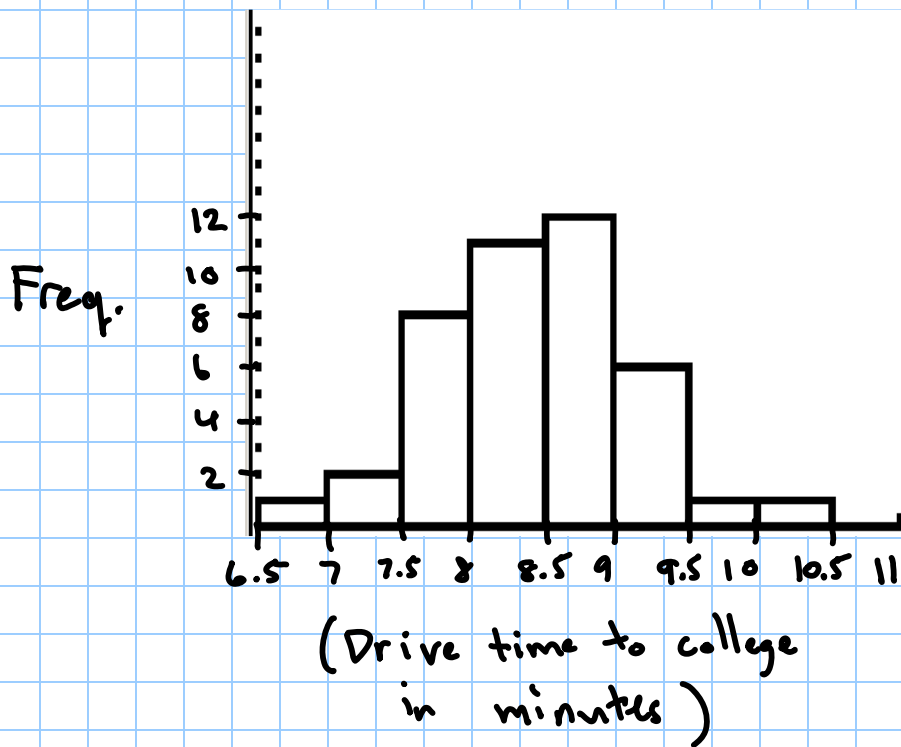   It's centered around 0% to 5% monthly returns.
   c) What were smallest and largest monthly returns (excluding outliers)?   approx -12.5% to 12.5%

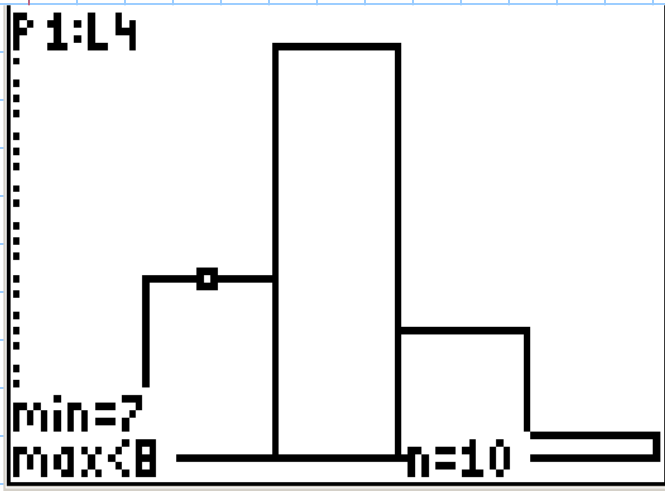   d) About what percent of all months had negative returns?

     50 + 30 + 10 + about 10 = 100 out of 273

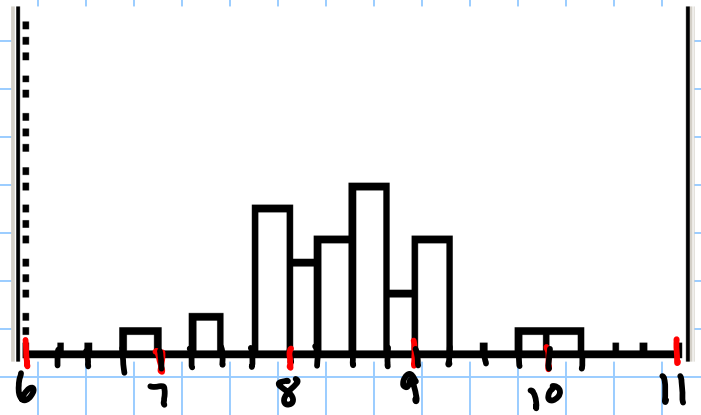$$\frac{100}{273} \approx 0.366 \approx 37\%$$

#56) Drive time to college for Prof Moore (sample of 42 consecutive weekdays). Make a histogram to display the data. Write a paragraph describing the distribution.

symmetrical

Freq.

(Drive time to college in minutes)
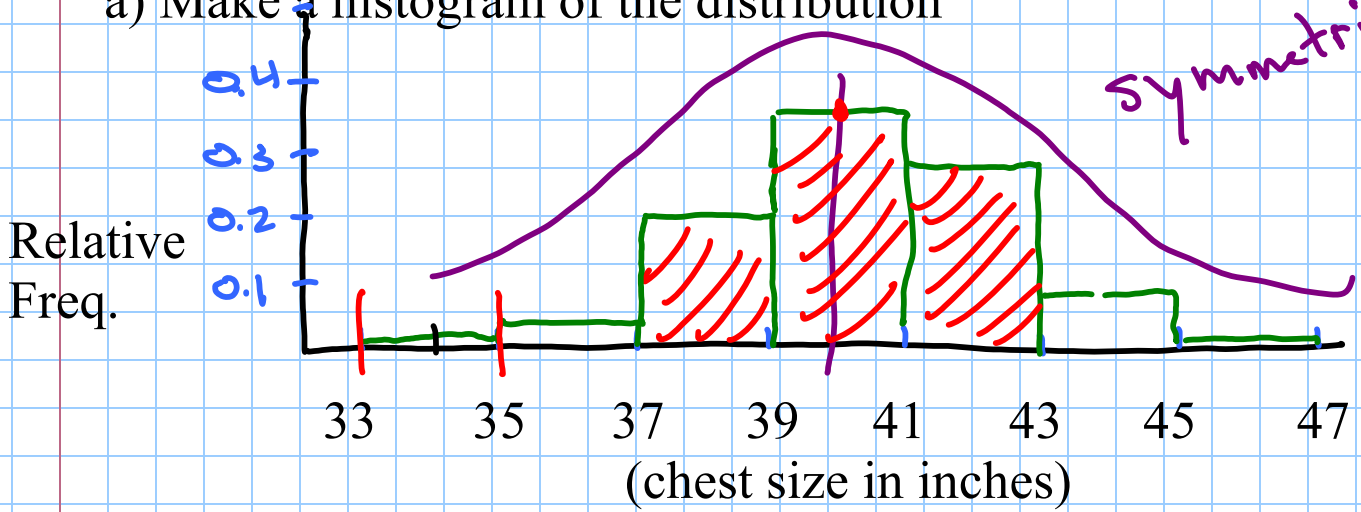
P 1:L4

min=7
max<8   n=10

drive time in
(minutes)

6   7   8   9   10   11

drive time in
(minutes)

Changing Intervals (interval widths)

Intervals	Freq	Relative Freq
0 to < 3	8	.16
3 to < 6	12	.24
6 to < 9	10	.20
9 to < 12	8	.16
12 to < 15	5	.10
15 to < 18	4	.08
18 to < 21	3	.06
	50	

#58) Chest size of 5738 Scottish militiamen. $33 \rightarrow \dfrac{3}{5738}$

a) Make a histogram of the distribution

symmetrical

Relative
Freq.

0.4
0.3
0.2
0.1

33   35   37   39   41   43   45   47
(chest size in inches)

range of 14

Intervals
0 to 4 | 5 to 8 | 9 to 12
0 to <4   4 to <8

①