5A. Statistics pages19-20

5. Algebra 1: Statistics
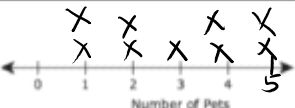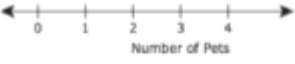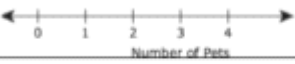### Study Guide   MRS. WILSON

1) What is the **interquartile range** and **range** of the data represented on the plot below?

(box plot with values 2, 5, 6, 8, 10 on number line 0–12)

$IQR = 3rd - 1st = 8-5 = 3$

$Range = Max - min = 10-2 = 8$

2) How many females do not grocery shop? (37)

Do you Shop for Groceries at least Once a Week?			
Gender	Yes	No	Total
Male	78	11	89
Female	54	37	91
Total	132	48	180

3) What is the outlier of the following set of data?

-6, 1, 6, -5, 0, -35, -2?

− 35

4) The following table shows data on the number of pet students have from four classes.

Use the dot plots below to determine which data set is Normally Distributed.

DO   BCD

A	5 5 3 3 2 4 1 1 1 1
B	3 5 3 5 4 2 5 2 1
C	3 5 3 3 4 2 4 2 1
D	1 5 3 1 4 2 4 2 1

(A)   NO

(dot plot A: Number of Pets)

B   (number line Number of Pets)

C   (number line Number of Pets)

D   (number line Number of Pets)

5) What is the conditional relative frequency that a student's favorite sport is not soccer, *given* that the student is a boy?

	Prefer Soccer	Do not Prefer Soccer	Total
Boys	28	(12)	(40)
Girls	19	31	50
Total	47	43	90

A	13% of all boys do not prefer soccer.
(B)	30% of all boys do not prefer soccer.
C	27.5% of all boys do not prefer soccer.
D	25.5% of all boys do not prefer soccer.

$12/40 \times 100 = 30\%$

6) What is the mean, median and mode of the data set? {-6, -5, -4, 7, 9, 9, 10, 11, 14}?

mean $= \frac{45}{9} = 5$

median = 9
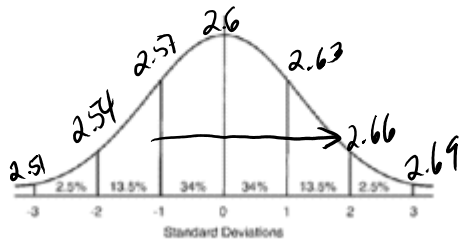
mode = 9

7) The dot plot below to answer the question below.
Ralph's test scores
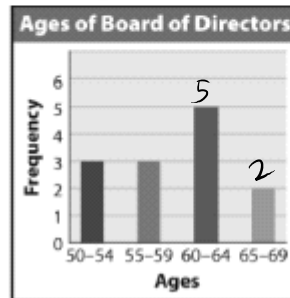
How many students earned a score of 90 or better?

4+2=6

8) The masses (in grams) of pennies are Normally Distributed with a mean of 2.60 g and a standard deviation of 0.03 g.

2.51   2.54   2.57   26   2.63   2.66   2.69

Find the probability that a penny chosen at random has a mass of 2.57g and 2.66g?
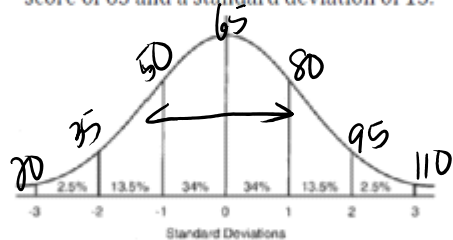
34+34+13.5 = 81.5%

9) Refer to the histogram below.

How many number of board of directors are 60 years or older?

5+2 = 7

60 years old OR older

10) A large group of students took a test in Physics and the final grades have a mean score of 65 and a standard deviation of 15.

65   50   80   35   95   20   110

If we can approximate the distribution of these grades by a normal distribution, what percent of the students scored between 50 and 80?

34+34 = 68%