

1. Consider the back-to-back stem plot below. The data represents the number of home runs per season hit by Babe Ruth and Roger Maris. Data for Ruth are for each year he played with the New York Yankees. Data for Maris are for the 10 years he played in the American League. Ruth held the record for number of home runs in a single season until 1961 when Maris hit more home runs than Ruth.

Maris		Ruth
8	0	
6 4 3	1	
8 6 3	2	2 5
9 3	3	4 5
	4	1 1 6 6 6 7 9
	5	4 4 9
1	6	0

a. What does the entry 8|0 represent?

8 homeruns for Maris

b. How many years did Ruth play for the Yankees?

15

c. What is the greatest number of home runs each player hit in a single season during his career?

Ruth 60 Maris 61

d. Which number appears to be an outlier?

IQR =

61

e. What is the average number of home runs Roger Maris hit in a single season?

$$\bar{x} = \frac{261}{10}$$

$$\bar{x} = 26.1$$

2. Use the dot plot below of the distribution of heights (in inches) of some randomly chosen adults with the same occupation.



a. How many people are in this sample?

24 people

b. What is the maximum height?

89 in

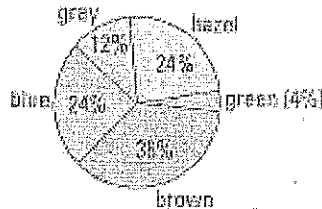
c. Which height has the greatest frequency?

82 in

d. What is the median height?

80.5

3. The circle graph below shows eye colors of the students in Ms. Smith's 4<sup>th</sup> hour. If 7 students have either green or hazel eyes, how many students are in the class?

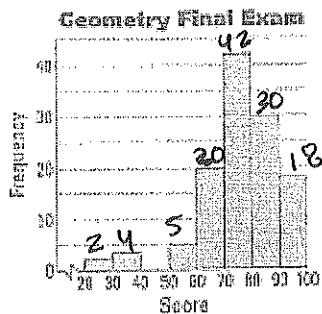


$$\frac{28}{100} = \frac{7}{x}$$

$$\frac{7}{28} = \frac{x}{100}$$

x = 25 students

4. Use the histogram below to answer the following questions.



a. About how many students got scores between 60 and 70, including 70?

20

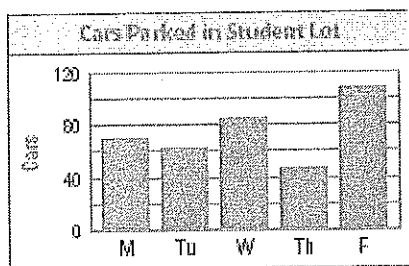
b. About how many students took the final exam?

121

c. In which 10-point interval does the median fall?

70-80

5. Use the bar graph to answer the questions.



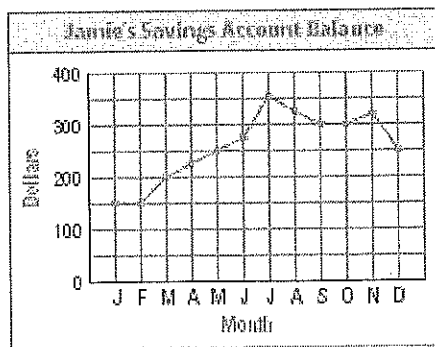
a. On which day of the week was the greatest number of cars parked in the student lot?

Friday

b. How many cars were parked in the student lot on Monday?

70

6. Use the line graph to answer the questions.



a. In which month(s) was Jamie's balance \$250?

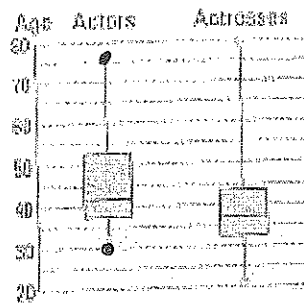
May + Dec

b. Between which two consecutive months did Jamie's balance increase the most? How can you tell?

June + July

(steepest pos. slope)

7. Examine these box plots of the ages at which people received Academy Awards for the best actor or actress between 1971 and 1995.



a. Estimate the median age of the men who won for Best Actor.

42

b. What is the range of ages for Best Actor?

$$76 - 30 = 46$$

c. The five-number summary for the data on actresses is: 21, 32.5, 37, 43.5, 80. The youngest and oldest actresses to receive Oscars in this period were Marlee Matlin in 1986 at 21 and Jessica Tandy in 1989 at age 80. Which if, either of these, is an outlier?

$$IQR = 11$$

$$Q_1 - 1.5 \times IQR = 16.5$$

$$Q_3 + 1.5 \times IQR = 66$$

$$1.5 \times IQR = 16.5$$

Marlee 21

Jessica 80

no outlier

outlier!

d. Do gender differences exist in the ages at which men and women win Oscars? Use statistics to justify your answer.

50% of female actors win Oscars from ages

32.5 - 43.5. 50% of male actors win Oscars

from ages 37 - 53.

Female max = 80, min = 21

male max = 76, min = 30