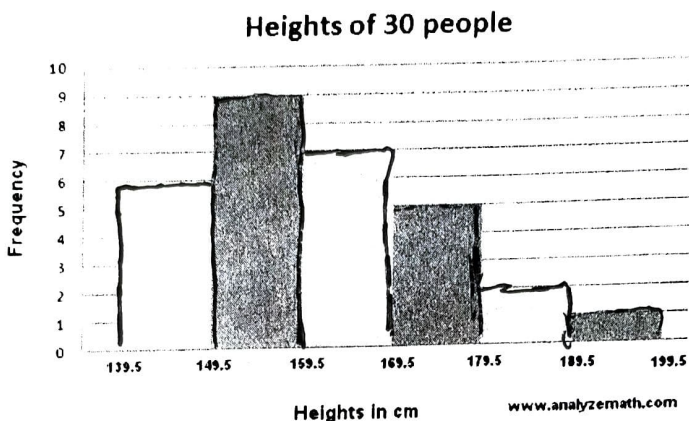


KEY

AP Statistics Semester 1 Practice Final Exam

Chapter 1

1. Which of the following is true about the data below?



- a. It is skewed right, with a mean of 165 and a median of 172.
- b. It is skewed right, with a mean of 172 and a median of 165.
- c. It is symmetric, with a mean of 172 and a median of 165.
- d. It is skewed left, with a mean of 165 and a median of 172.
- e. It is skewed left, with a mean of 172 and a median of 165.



SKEWING RIGHT OR LEFT MOVES THE MEAN IN THE SAME DIRECTION

2. The last ten of Suzie's walks to school had the following lengths in minutes:

12.3, 11.7, 10.5, 15.5, 11, 14.1, 12.2, 12.5, 8.2, 9.8

Which of the following statements is true?

- a. The median is 11.78
- b. The mean is 12.2
- c. The median is 12.2
- d. The data lends itself to representation in a pie chart.
- e. The data would be well represented in a histogram.

SUM: 117.8
DATA POINTS: 10

$$\text{MEAN} = \bar{x} = \frac{117.8}{10} = 11.78$$

MEDIAN

8.2, 9.8, 10.5, 11, 11.7, 12.2, 12.3, 12.5, 14.1, 15.5
MEDIAN: 11.95

1. The following two-way table shows the relationship between grade level and employment for 300 high school students.

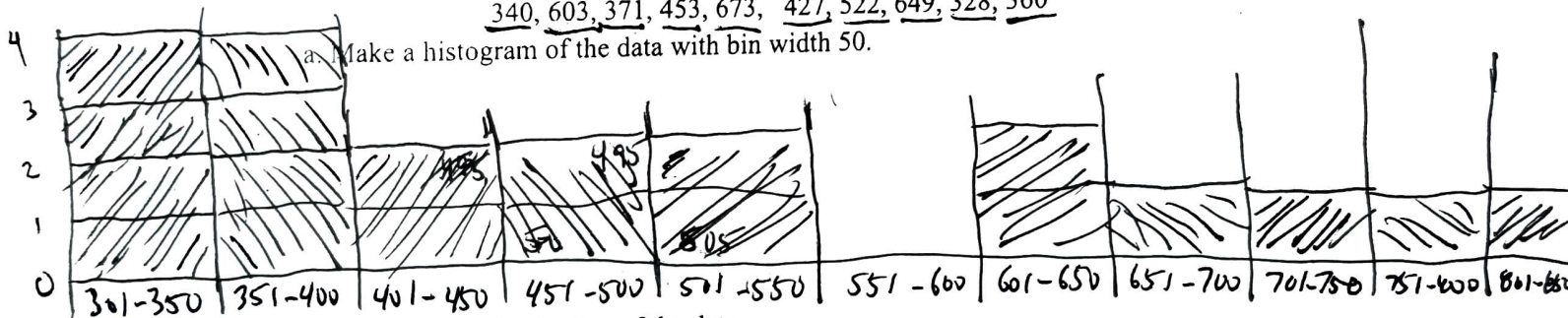
	Employed	Unemployed, but looking for a job	Not interested in working	
Upperclassmen	106	36	8	150
Underclassmen	24	39	87	150
				<u>300</u>

What relationship, if any, exists between grade level and employment status? Explain your answer, using appropriate data.

- * UPPERCLASSMEN ARE MUCH MORE INTEREST IN WORKING (ONLY 5% ARE NOT INTERESTED IN WORKING WHILE 50% OF UNDERCLASSMEN ARE NOT INTERESTED)
- * UPPERCLASSMEN ARE EMPLOYED AT A RATE MUCH HIGHER THAN UNDERCLASSMEN. (70.6% V. 16%)

2. The following numbers are the calorie counts of hamburgers at 20 popular fast food restaurants.

432, 394, 505, 789, 307, 326, 357, 495, 803, 721
 340, 603, 371, 453, 673, 427, 522, 649, 328, 360



b. Describe the distribution of the data.

SKewed RIGHT BECAUSE OF OUTLIERS ABOVE 700 CALORIES

c. If the highest calorie burger in the data, the Burger Queen McWhopper (803 calories), was replaced with the Seedz cafe vegan kale pumpkin spice wrap (207 calories), how would the following measures of center and spread be affected?

Mean w/BQM: 492.75 w/V.K.P.S.W.: 462.95

* MEAN WOULD DROP BY 30 CALORIES

Median w/BQM: 500 w/V.K.P.S.W.: 474

* MEDIAN WOULD DROP 26 CALORIES

Standard Deviation

w/BQM: 160.5 w/V.K.P.S.W.: 155.1

* STANDARD DEVIATION DECREASES BY 5.4 CALORIES