

Unit 6 Test Review

1. For the following set of data, complete the frequency distribution, histogram and stem and leaf plot. The data shows the ages of 30 consumers who bought a certain product advertised on TV:

42 44 62 35 20 39 21 18 24 42  
 30 56 20 23 41 40 32 50 31 26  
 55 22 31 27 66 18 25 35 36 22

Ages	Frequency
10-19	
20-29	
30-39	
40-49	
50-59	
60-69	


Key:

2. Find the five number summary and IQR for the given data set. Create a box and whisker plot to display the data.

5 8 10 12 13 15 17 4 12 16

Min: \_\_\_\_\_ Q1: \_\_\_\_\_ Median: \_\_\_\_\_ Q3: \_\_\_\_\_ Max: \_\_\_\_\_ IQR: \_\_\_\_\_

Does the data set contain any outliers?



3. The following table lists the ages of actresses when they won their first Oscar. Find the five number summary for the set of data and determine if there are any outliers. Create a box and whisker plot for the data.

21	24	25
26	26	27
30	30	31
33	34	34
34	34	35
35	37	38
39	41	41
44	50	60
61	74	80



Describe the shape of the distribution: \_\_\_\_\_

4. Given the 18-hole totals for the top golfer's in the men's competition and the women's competition, compare the spread of the data for the two sets using Mean Absolute Deviation.

TOP 6 GOLFER'S SCORES

MEN	WOMEN
67	68
69	70
69	72
71	73
74	74
76	75

**Men's**

Mean: \_\_\_\_\_ MAD: \_\_\_\_\_

**Women's**

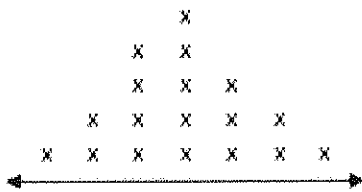
Mean: \_\_\_\_\_ Mad: \_\_\_\_\_

Which group of golfers was more consistent? Why? \_\_\_\_\_  
\_\_\_\_\_

5. What does the Mean Absolute Deviation Represent? Explain in your own words. \_\_\_\_\_  
\_\_\_\_\_

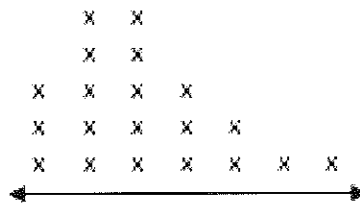
6. For the following dot plots, determine the shape of the distribution. Determine the order in which the mean, median and mode would occur for each distribution.

a.



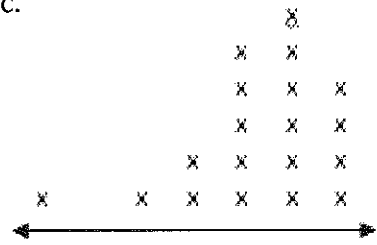
Lowest:  
Middle:  
Highest:

b.



Lowest:  
Middle:  
Highest:

c.



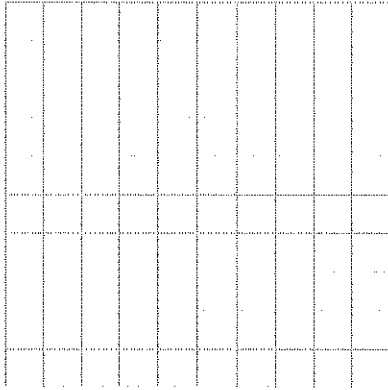
Lowest:  
Middle:  
Highest:

7. The table shows the largest vertical drops of nine roller coasters in the United States and the number of year after 1988 that they were opened.

<b>Years Since 1988</b>	1	3	5	8	11	12	12	13	15
<b>Vertical Drop</b>	151	155	225	230	300	306	255	255	400

a. Make a scatter plot for the data.

b. Estimate the equation of a line of best fit.

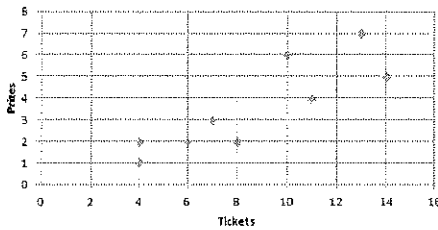


c. Predict the vertical drop of a coaster built in 2018.

8. Determine whether each graph shows a positive, negative or no correlation. If there is a positive or negative correlation, describe its meaning in the situation.

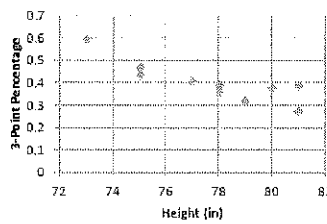
a.

**Game Tickets at the Fair**



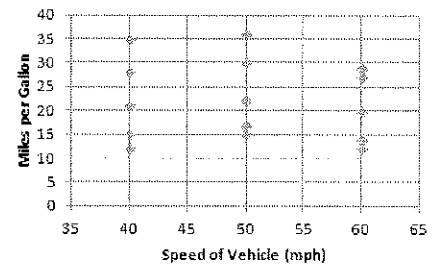
b.

**NBA 3-Point Percentage**



c.

**Gas Mileage**



9. Explain how the correlation coefficient relates to the fit of a model to data. \_\_\_\_\_

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10. The Body Mass Index (BMI) is a measure of body fat using height and weight. The heights and weights of twelve men with normal BMI are given in the table.

Height(in)	Weight(lb)
62	115
63	124
65	120
67	134
67	140
68	138
68	144
68	152
69	147
72	155
73	168
73	166

a. Use the calculator to find the linear regression equation for the data.

b. Does the correlation coefficient suggest a good linear fit?

c. Predict the normal weight for a man who is 84 inches tall.

d. A man's weight is 188 pounds. Use the equation to predict his height.

11. The following data displays the annual salaries, in the thousands, for 10 different people with various levels of education.

Years of Education	5	12	12	14	16	16	18	18	20	24
Annual Salary	23	26	27	48	58	65	95	110	160	250

a. What would be the most appropriate model for the data? Why?

b. Use the most appropriate model to predict what someone with 17 years of education would make?

c. Use the most appropriate model to predict how many years of schooling it would take to make \$85,000 a year.

## Unit 6 Test Review

12. The managers, staff, and assistants were given three options for the holiday activity: a potluck, a dinner at a restaurant, and a gift exchange. Five of the 11 managers want a dinner, while 3 want a potluck. Eleven of the 45 staff members want a gift exchange, while 18 want a dinner. Ten of the 32 assistants want a dinner, while 8 of them want a gift exchange.

a. Create a two-way frequency table for the data.

b. Create a multiple bar histogram with the employees on the x axis.

c. Create a relative frequency table for the data.

d. Create a stacked bar graph with activity on the x axis.