Name: _____

Unit 8 Test A

Date: _____ Period: _____

(8-1) Mean, Median, Mode and Range

1. The chart below shows the heights of the players on the boys' basketball team.

Find the mean, median, mode and range.

Mean: _____

Median: _____

Mode: _____

Range: _____

Height of Players (cm)			
130	155	160	149
154	172	162	151
148	153	140	150

(8-2) Constructing Graphs

2. Display the data shown in a stem-and-leaf plot.

Senior League Baseball Team	
Player	Age
Bob	56
Richard	64
James	54
Stan	77
John	54
William	66
Steve	61
Henry	58
Roger	59
Don	74

3. In which interval from question #2 do most of the ages occur?

4. Draw a box and whisker plot for this set of data. Be sure to label the value of each outlier, the lower quartile, the upper quartile, and the median:

65, 92, 74, 61, 55, 35, 88, 99, 97, 100, 96

5-7. The students in Mr. Smith's class got the following scores on a math test: 100, 89, 83, 76, 79, 88, 88, 94, 88, 76, 82, 92, 92, 95, 90, 89, 85, 98, 98, 71, 73, 78, 77, 83, 77, 84, 89, 89, 90, 95, 90, 92, 94, 86, 85, 80.

5. Complete the frequency table below using the above data.

Grouping Intervals	Tallies	Frequency
95-100		
89-94		
83-88		
77-82		
71-76		

6. Make a histogram to show the data in the frequency table from above. Be sure to title and label your graph.

7. In which interval did most students score on the math test?

(8-4) Data Collection and Graphical Display of Data

8. Mrs. Johnson collected the math scores for the students in her class on the latest math test. She wants to determine the range of the scores for the middle 50% of the students. Which graph would best show her this information?

a. circle graph b. box-whiskers graph c. histogram d. line graph

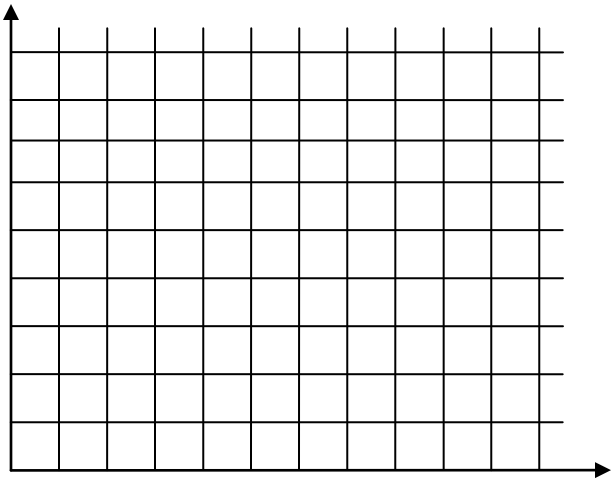
9. Mrs. Johnson now wants to determine how many students scored between 70-80 on the test. Which graph would best show her this information?

a. circle graph b. box-whiskers graph c. histogram d. line graph

(8-5) Scatter Plots

10. Make a scatter plot and draw a best-fit line for the data.

Year	Wage ($/hour)
1980	3.10
1981	3.35
1984	3.50
1986	3.75
1988	4.00
1990	3.80
1994	4.00
1996	4.25
1997	4.75
1998	5.00
2000	5.15

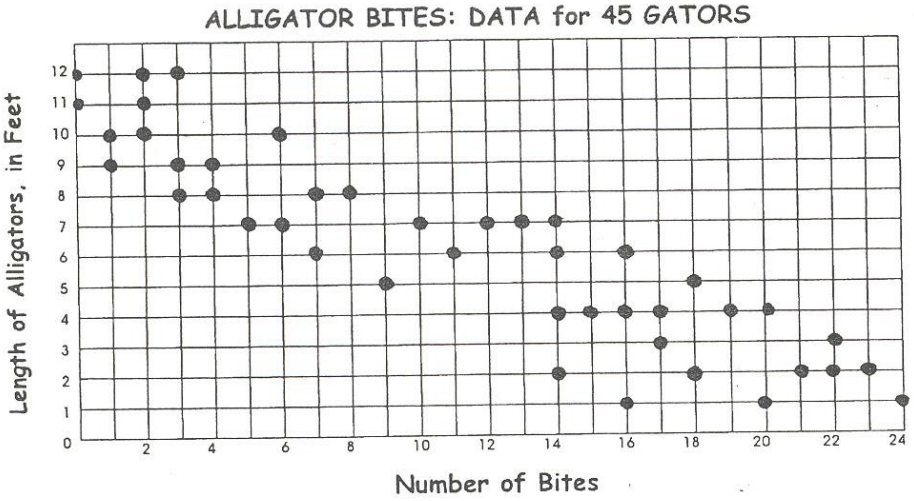


11. Does this data show a positive, negative, or no relationship between the year and the minimum wage?

12. Use the best-fit line to predict the minimum wage for the year 2004.

(8-6 and 8-7) Interpreting and solving contextual problems using Box and Whisker Graphs, Circle Graphs, and Scatter Plots

Use the following scatter plot to determine if each statement is True or False.



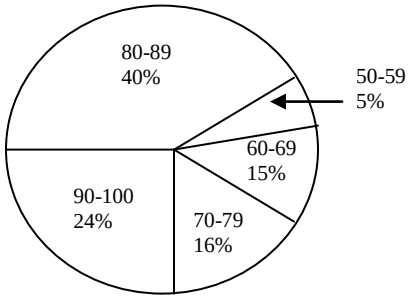
_____ 13. In general, the smaller alligators bit more.

_____ 14. In general, the larger alligators bit more.

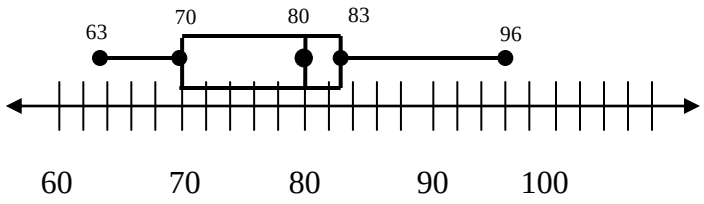
_____ 15. The length of the alligator had no relationship to the number of bites.

_____ 16. This graph shows a negative relationship between length of an alligator and the number of bites.

17. Mr. Horn made a circle graph to show the results of yesterday's science test. There are 24 students in Mr. Horn's class. According to the circle graph, about how many students scored less than 70% on the test? (Round to the nearest whole student.)



Math Quiz Scores



Use the box-whisker graph above to answer questions 18-20:

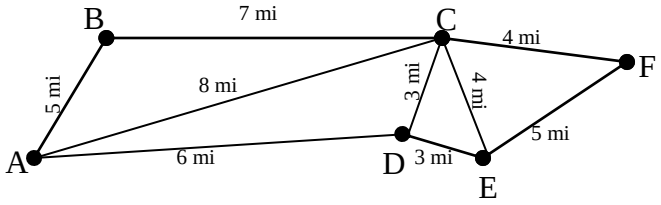
18. What was the highest quiz score?

19. What percent of the students scored between 80 and 96?

20. Based on the plot, what was the range of scores?

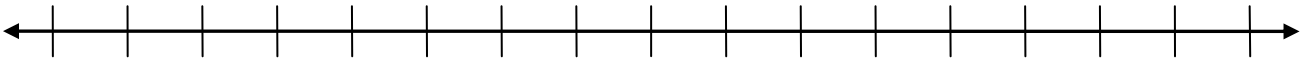
(8-8) Vertex Edge Graphs

21. Use the vertex edge graph to determine the *distance* of the shortest route from A to F, passing through D.



Mixed Review

23. (1-5) and (1-6) Use the line graph to find the distance and midpoint between these sets of points: -4 and 2



24. (2-6) Solve: $-52 + 3n = -43$

25. (3-4) Find the missing variable: $\frac{x}{8} = \frac{5}{16}$

26. (4-3) Make a table of values for this equation: y = -2x + 3

x	y
-2	
0	
2	

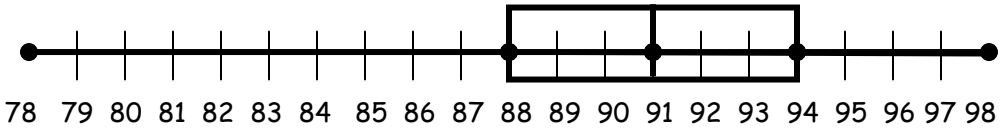
27. (5-1) Determine if this figure has Line Symmetry, Point Symmetry, Both Line and Point Symmetry, or None.

<u>Interpreting and Analyzing Graphs</u>

Use the box and whiskers graph to answer the following questions.

The following were test scores in Mr. Jones' math class:

92, 88, 98, 92, 78, 90, 95, 91, 83, 94,

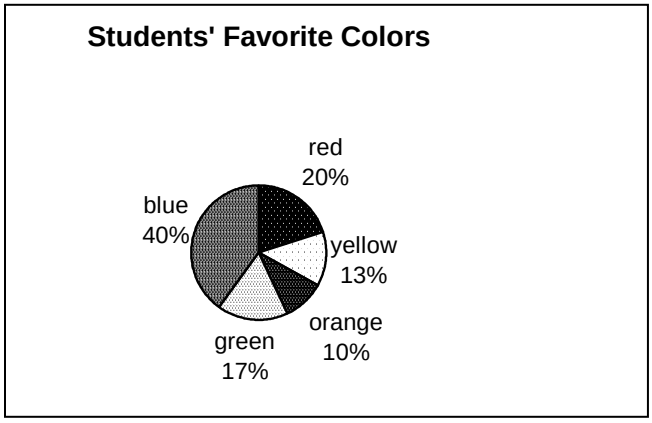


1. What is the median score? _____

2. What quartile would you be in if you scored 83 on the test?_____

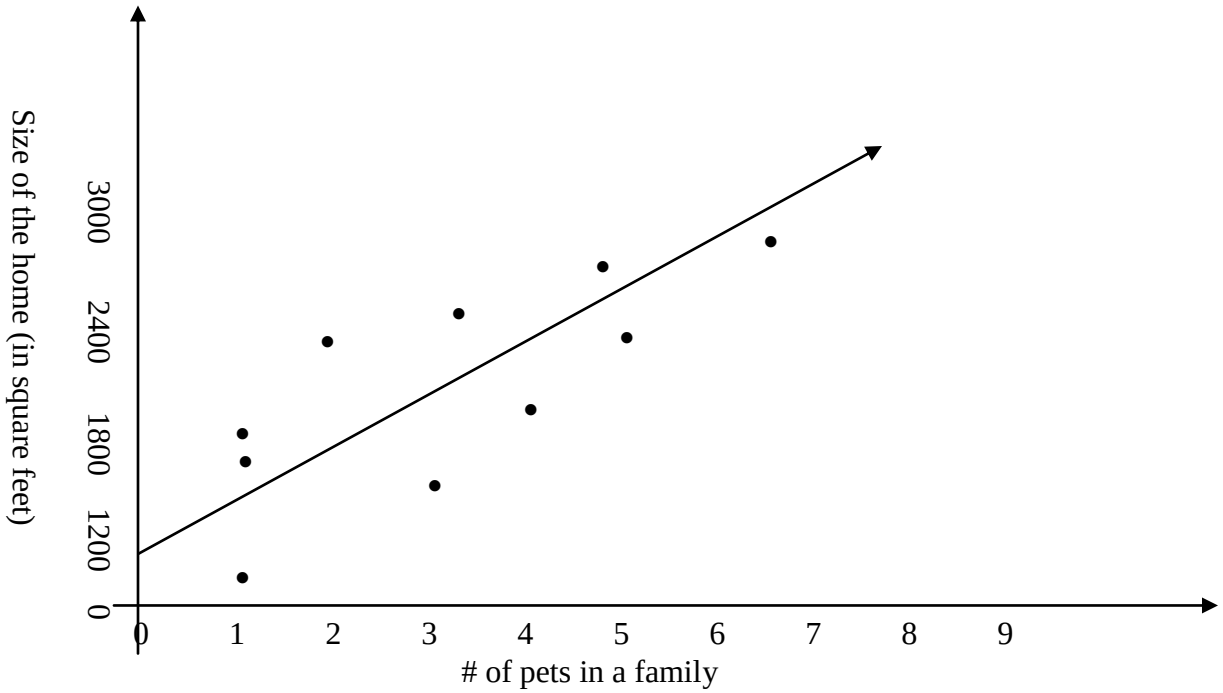
3. What is the lowest score you could have and still be in the top 75%?____

Use the circle graph to answer the questions if 200 students were surveyed



4. How many students favorite color is orange?
5. How many more students like blue than green?
6. What colors add to 50% of the graph?

Use the scatter plot to answer the questions



7. What type of correlation exists? _____
8. If you have 4 pets approximately how big is your house (use the line of best fit)? _____
9. If your house is 3600 square feet, how many pets might you own? ___

Determine the effects of the missing or incorrect data

If Miguel earned the following test scores 89, 92, 86, and 97, his average test score would be 91. The teacher entered his scores in as 89, 92, 68 and 97.

10. How is his average going to change?

11. If he were to not turn in a take home test and got a 0, how would his average change?

12. How does missing or incorrect data affect your overall information?