

Name: \_\_\_\_\_

Date: \_\_\_\_\_

**Unit 12 Quiz Review**

Algebra 1

1. Jack researched tire prices for his 2004 Honda Civic. He found the following prices.

\$45, \$88, \$109, \$129, \$146, \$189, \$202, \$218, and \$545

- Find the mean of the tire prices *to the nearest cent*.
  - Find the median of the tire prices.
  - Which is a better measure of central tendency for this particular data set, mean or median? Explain.
  - The store that charged \$545 for a tire had a sale and lowered its price to \$375. Is the new price still considered an upper outlier? Calculate the upper boundary and explain your answer.
2. Answer the following questions based on the table below. *Round to the nearest tenth if necessary.*

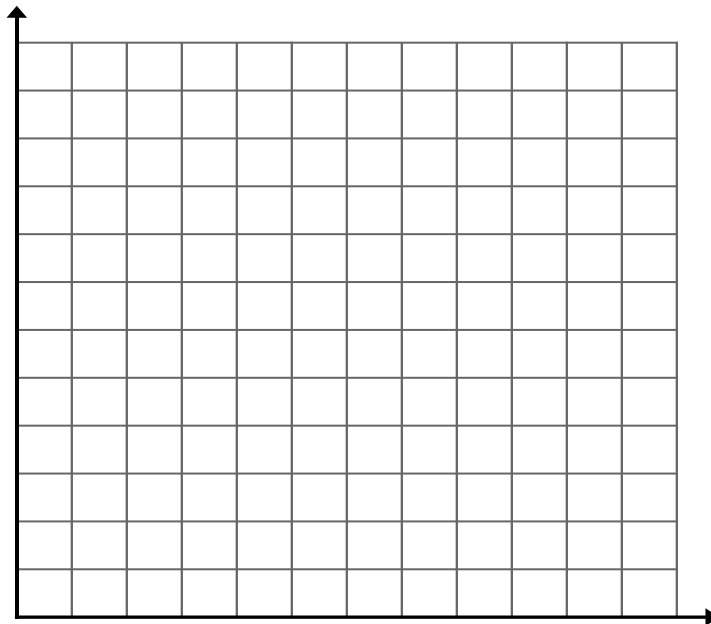
	<b>Vegetarian</b>	<b>Not a Vegetarian</b>
<b>Boys</b>	12	114
<b>Girls</b>	23	101

- How many girls were surveyed?
- What percentage of the students surveyed are girls?
- What percentage of the students surveyed are vegetarian?
- What percentage of the students surveyed are boys and not vegetarian?
- What percentage of the boys surveyed are not vegetarian?

3. Mr. Terise wants to represent the age of the teachers in the math department on a cumulative frequency histogram.

Age Interval	Frequency	Cumulative Age Interval	Cumulative Frequency
21-30	2		
31-40	6		
41-50	7		
51-60	4		
61-70	1		

- a. Complete the table above.
- b. Create a cumulative frequency histogram using the table.



- c. What percentage of teachers's are 40 or younger?
- d. Within which 10 year interval will the median age be found?

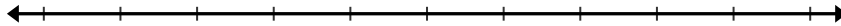
4. The test scores from Ms. Grey's math class are shown below.

72, 73, 42, 66, 71, 82, 85, 95, 86, 89, 91, 92

a. State the values of the minimum, 1<sup>st</sup> quartile, median, 3<sup>rd</sup> quartile, and maximum.

Min = \_\_\_\_\_ Q1 = \_\_\_\_\_ Q2 = \_\_\_\_\_ Q3 = \_\_\_\_\_ Max = \_\_\_\_\_

b. Construct a box-and-whisker plot to display this data.



c. What is the inter-quartile range?

d. Calculate the upper and lower boundaries. Are there any outliers?

e. What is the standard deviation of the grades *rounded to the nearest tenth*?

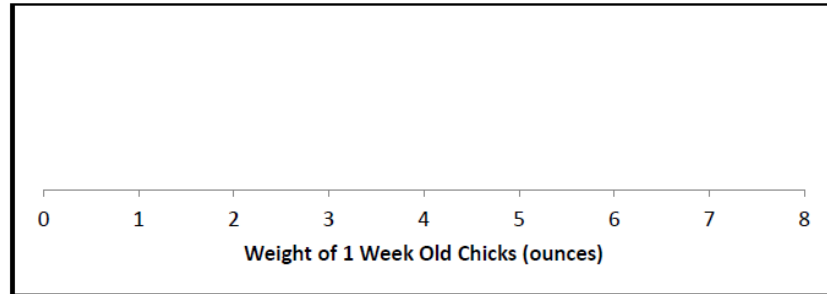
f. What percentage of the grades fall between Q1 and Q3?

g. What percentage of the grades are less than Q3?

h. What percentage of the grades are between Q3 and the max?

5. A farm is studying the weight of baby chickens (chicks) after 1 week of growth. They find the weight, in ounces, of 20 chicks. The weights are shown below. Construct a dot plot on the axes given.

2, 1, 1, 3, 4, 2, 2, 3, 1, 5, 3, 4, 4, 5, 6, 3, 8, 5, 4, 6



- a. Find the median and mean weight of the chicks. Round to the nearest *tenth*.
- b. Using a calculator, find the standard deviation. Round to the nearest *tenth*.
- c. How many of the 20 chicks fall within one standard deviation of the mean?
6. On his first 4 Algebra tests, Jack received the following scores: 88, 90, 75 and 72. What test score must Jack earn on his 5<sup>th</sup> test so that his average (mean scores) for all 5 test will be an 80? *Solve algebraically*.