TYPES OF DATA

Categorical	Quantitative
• Deals with descriptions (and/or attributes). • Data can be observed, but not measured. • Colors, Textures, Appearance, Types, Kinds, Brands, ETC.	• Deals with numbers. • Data can be measured. • Length, Height, Area, Volume, Weight, Speed, Time, Temperature, Cost, Age, ETC.

Special Topics
Univariate Data

Name Mr. Morton
Date _____

Categorical vs. Quantitative Data & Box Plots WS

"Descriptions" Categorical: Also called qualitative or attribute variables.

"Numbers" Quantitative: The values of a quantitative variable can be ordered and measured.

I. Determine whether the following variables are categorical (C) or quantitative (Q)

1. Brand of vehicle purchased by a customer Categorical
2. Price of a CD Quantitative
3. Number of students in a class of 30 who prefer peanut M&Ms over plain M&Ms Quantitative
4. Phone number of all the students enrolled in school. Categorical
5. The height of a 1 year old child. Quantitative
6. Number of students in a class of 35 who turn in a term paper before the due date. Quantitative
7. Gender of the next baby born at a particular hospital. Categorical
8. Amount of fluid (oz) dispensed by a machine used to fill bottles with soda. Quantitative
9. Thickness of the gelatin coating of a Vitamin C capsule Quantitative
10. Brand of computer purchased by a customer. Categorical
11. State of birth for someone born in the United States. Categorical
12. Price of a textbook Quantitative
13. Actual weight of coffee in a one pound can. Quantitative
14. The length of a rattlesnake. Quantitative

II. Box Plot

Minimum: Smallest Value	Mean: Average (add up, divide)
Q_1: Lower Quartile	Range: Maximum - Minimum
Median: Q_2 Middle # (If two numbers share, take the average)	IQR: The distance between Q1 and Q3
Q_3: Upper Quartile	Outliers: Point distinctly separate/alone.
Maximum: Largest Value	$< Q_1 - 1.5 \times IQR$ / $> Q_3 + 1.5 \times IQR$

★ Line 1
★ Line 2
★ Line 3

1. **Paper Clip Activity** Answers May Vary!

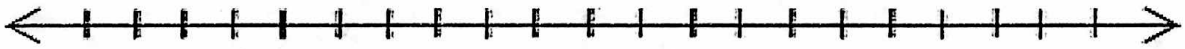
Mr. Morton

List the data values in order from least to greatest.

Complete the following table.

Minimum	Lower Quartile	Median	Upper Quartile	Maximum

Create a box plot to display the data.



Are there any outliers?

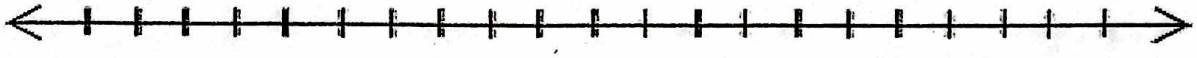
2. **Age of Youngest Parent**

List the data values in order from least to greatest.

Complete the following table.

Minimum	Lower Quartile	Median	Upper Quartile	Maximum

Create a box plot to display the data.



Are there any outliers?