



Concept: Understanding Statistics

Name: _____

PART A: COMPUTER COMPONENT

Instructions: In  follow the **Content Menu** path:

Graphing > Statistics

 Work through all Sub Lessons of the following Lessons **in order**:

- *An Introduction*
- *Data... What is it?*
- *Examples of Data*
- *Statistics... What is it?*
- *Collecting Data*
- *Presenting Data*

NOTE: You will not be finishing the entire section before stopping to complete some **OFF COMPUTER EXERCISES**.

 As you work through **PART A: COMPUTER COMPONENT**, you will be prompted to make notes in your notebook/math journal.

When you reach the end of the lesson *Presenting Data*, leave the computer and move on to **PART A: SUMMARY** below.

PART A: SUMMARY





1. The Tally Chart below records the number of fish in Sasha's aquarium over a four-year period.

Number of Fish	
1999	### /
2000	###
2001	
2002	### ###

- (a) How many fish were there in 2000? **8 fish are in the aquarium.**
- (b) How many more fish were there in 2002 than in 1999? **There were 6 more fish.**
- (c) In which year did Sasha have the least number of fish? **2001**

2. The Pictograph below records the number of balls each grade uses during gym class.

Each  represents 2 balls.

Number of Balls	
1st	
3rd	
5th	
8th	

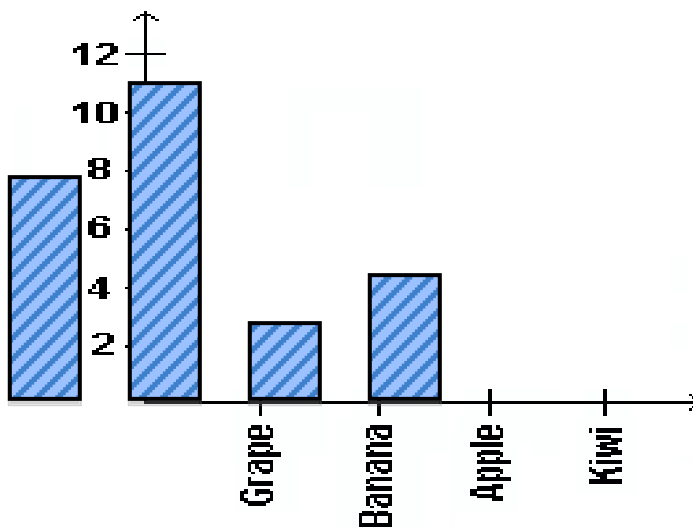
(a) How many balls does the 5th grade use? *5th grade uses 6 balls.*

(b) Which grade uses the greatest number of balls? *The 3rd grade uses the least number of balls.*

(c) How many more balls does the 8th grade use than the 3rd grade? *The 8th grade uses 4 more balls.*

3. Use the information in Tally Chart below to draw a Bar Graph of the students' favorite fruits. (Don't forget to label the axes!)

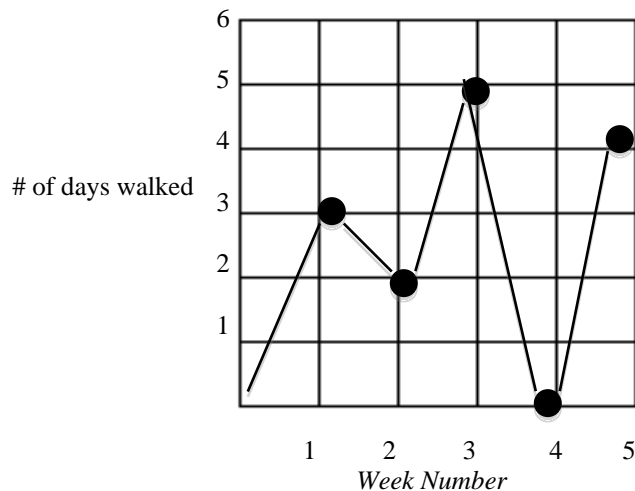
Favorite Fruit	
Grape	###
Banana	### ###
Apple	
Kiwi	###



- (a) How many students like banana the most? ***11 people like banana the most.***
- (b) Which fruit is the least popular? ***Apples are the least popular.***
- (c) How many students are in the class? ***There are 27 people in the class.***

4. Using the information in the chart, draw a Line Graph of the number of times Tim walked to school over the weeks. (*Don't forget to label the axes!*)

Week #	# of Days Walked
1	3
2	2
3	5
4	0
5	4



- (a) In which week did Tim walk the most often? ***Tim walked most often in week 3.***
- (b) In which week did Tim walk the least often? Why do you think that this was the case?

He may have received a drive, he may have been ill etc.

- (c) How many times did Tim walk to school in the five weeks counted? ***He walked to school 14 times.***

Demonstrate your superior knowledge of 'statistics' by filling in the spaces below to complete the sentences and answer the questions.

- (a) In order to help readers understand the data, we can convert data to other forms, such as **charts, graphs, and tables.**

- (b) Statistics is a branch of mathematics that provides you with methods of collecting data, organizing data interpreting data.
- (c) The method of collecting your own data is called a primary data collection method.
- (d) To begin a stem and leaf plot, you set up a table.
Describe in your own words how to proceed from there.

The stems are derived from the greatest common place values; the leaves are found in the next most common place values.

- (e) In a bar graph, the bars are the same width.
- (f) What is the difference between a bar graph and a histogram? ***The Y axis indicates the frequency that an item of data occurs. This is illustrated with bars that have no gaps left between.***
- (e) A line graph involves connecting each point on the graph with a straight line.
- (f) When drawing the sections in a circle graph, we must first calculate the degrees of the circle that each sector must be.

I.e. 80% of the circle is 80% of $360^\circ = ????$

The calculation involved here is 0.80 \times $360^\circ =$ 288 $^\circ$

- (g) We use scatter plots to find trends in the data.

PART A: OFF COMPUTER EXERCISES

1. Below are the speeds of the vehicles travelling on the Intercity Highway.

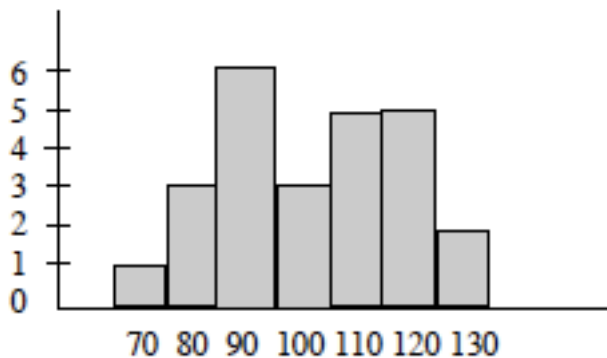
NOTE: the speeds are in kilometers per hour

95	82	85	108	83	95	120	111	90	110	116
99	103	115	78	134	121	109	117	99	131	122
99	123	127								

- (a) Place these results in a Stem and Leaf Plot.

<i>Stem</i>	<i>Leaf</i>
7	8
8	235
9	055999
10	389
11	01567
12	01237
13	14

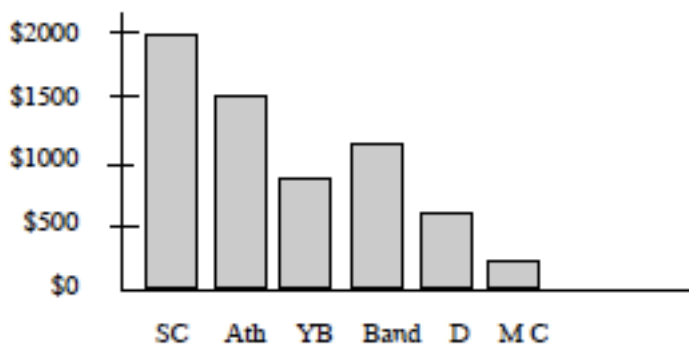
(b) Create a Histogram using the information given.



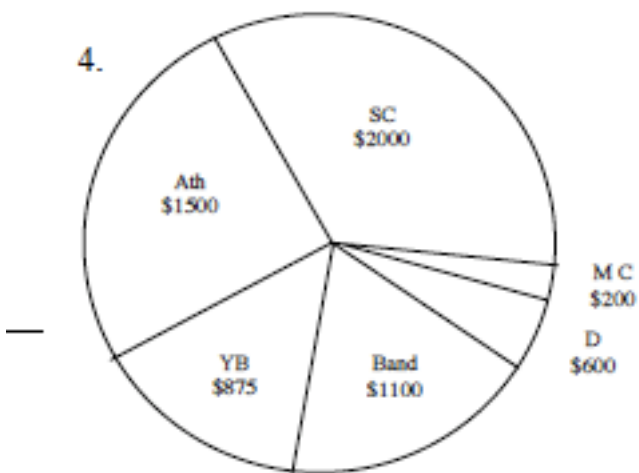
2. The following data represents the breakdown of the money in a school’s Student Activity Fund:

Student Council \$2000, Athletics \$1500, Yearbook \$875, Band \$1100, Dances \$600, Math Club\$200.

(a) Create a Bar Graph to present this information.



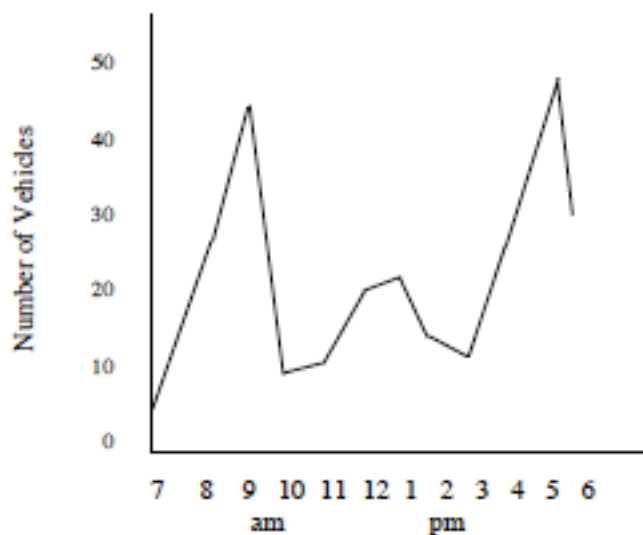
(b) Create a Circle Graph using the data given.



3. The number of vehicles passing through a particular intersection on a Tuesday is given below.

7:00am	– 5	11:00am – 9	3:00pm – 9
8:00am	– 25	12:00am – 18	4:00pm – 25
9:00am	– 45	1:00pm – 20	5:00pm – 48
10:00am	– 8	2:00pm – 12	6:00pm – 30

(a) Draw a Line Graph to show the data.



(b) Re-plot the data given as a Scatter Diagram. *What are the trends?*

