<u>**TITLE**</u>

Analyzing Graphs & Data

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<u>**Goal:**</u> To be able to analyze and make inferences from data displays and find relationships between the data displays.

<u>**Grade and Course:**</u> 8th grade - Algebra

<u>**KY Standards**</u>:
1. MA-08-4.1.1 Students will analyze and make inferences from data displays (drawings, table/charts, pictographs, bar graphs, circle graphs, line plots, Venn diagrams, line graphs, stem-and-leaf plots, scatter plots, histograms, box-and-whisker plots.
2. MA -08-4.1.4 Students will construct data displays (Venn diagrams, tables, line graphs, stem-and-leaf plots, circle graphs, scatter plots); explain why the type of display is appropriate for the data and explain how misleading representations affect interpretations and conclusions about data.
3. MA -08-4.1.2 Students will explain how different representations of data (e.g., tables, graphs, diagrams, plots) are related.

<u>**Objectives:**</u>
1. Students will be able to identify different data displays.
2. Students will be able to gather data from scatter plot and find the correlation between the variables.
3. Students will be able to compare two different types of data displays and find a relationship between them.

<u>**Resources/materials needed:**</u>
1. Handouts
2. Graphs

<u>**Description of Plan**</u>
1. Students will review the different types of graphs that are used to display data.
2. The worksheet has two parts. The first part asks the students to analyze a scatter plot and gather conclusions from the graph. It also requires them to make inferences about correlation between the two given variables.
3. The second part of the worksheet has the students comparing a bar graph and circle graph with the same data displayed. The students are asked to find the connection (relationship) between the different representations of the data and to use this relationship to make inferences about changes in the data.

<u>**Lesson Source:**</u> Problems with a Point

<u>**Instructional Mode:**</u>   individual work, small group activity

<u>**Date Given: 03/6/07**</u>   <u>**Estimated Time**</u>: 30 minutes

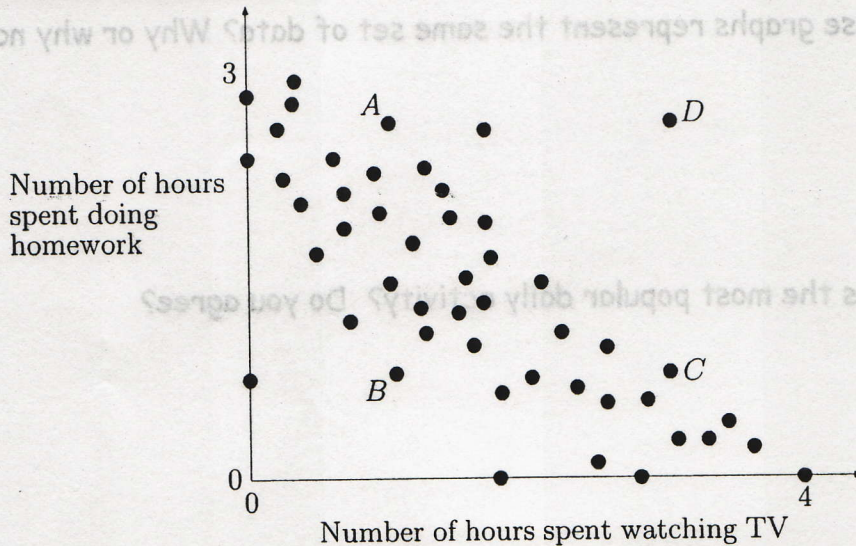<u>**Date Submitted to Algebra[3]:**</u> 10/9/07

Form 8-18-06

Name_____   Date_____

<u>GRAPHS</u>

PART I

Annie asked a group of teenagers how much time they spent doing homework one evening and how much time they spent watching TV. Here is a scatter plot to show the results.

Number of hours spent doing homework

Number of hours spent watching TV

1. Which of the four points A,B,C,or D represents each of the statements show below? Write one letter for each statement.
   a) "I watched a lot of TV last night and I also did a lot of homework." _____
   b) "I spent most of my evening doing homework. I only watched one program of TV." _____
   c) "I went out last night. I didn't do much homework or watch much TV." _____

2. Make up a statement that matches the fourth point.

3. What does the graph tell you about the relationship between time spent watching TV and time spent doing homework? What is the correlation?

PART II
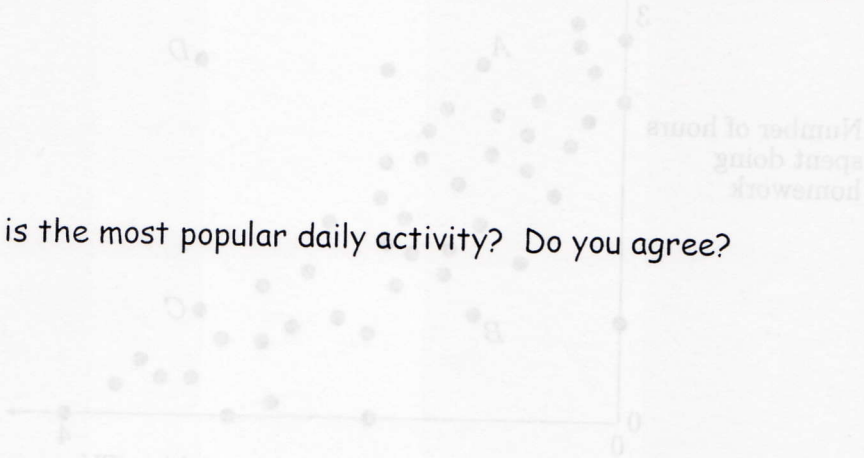Comparing two graphs...

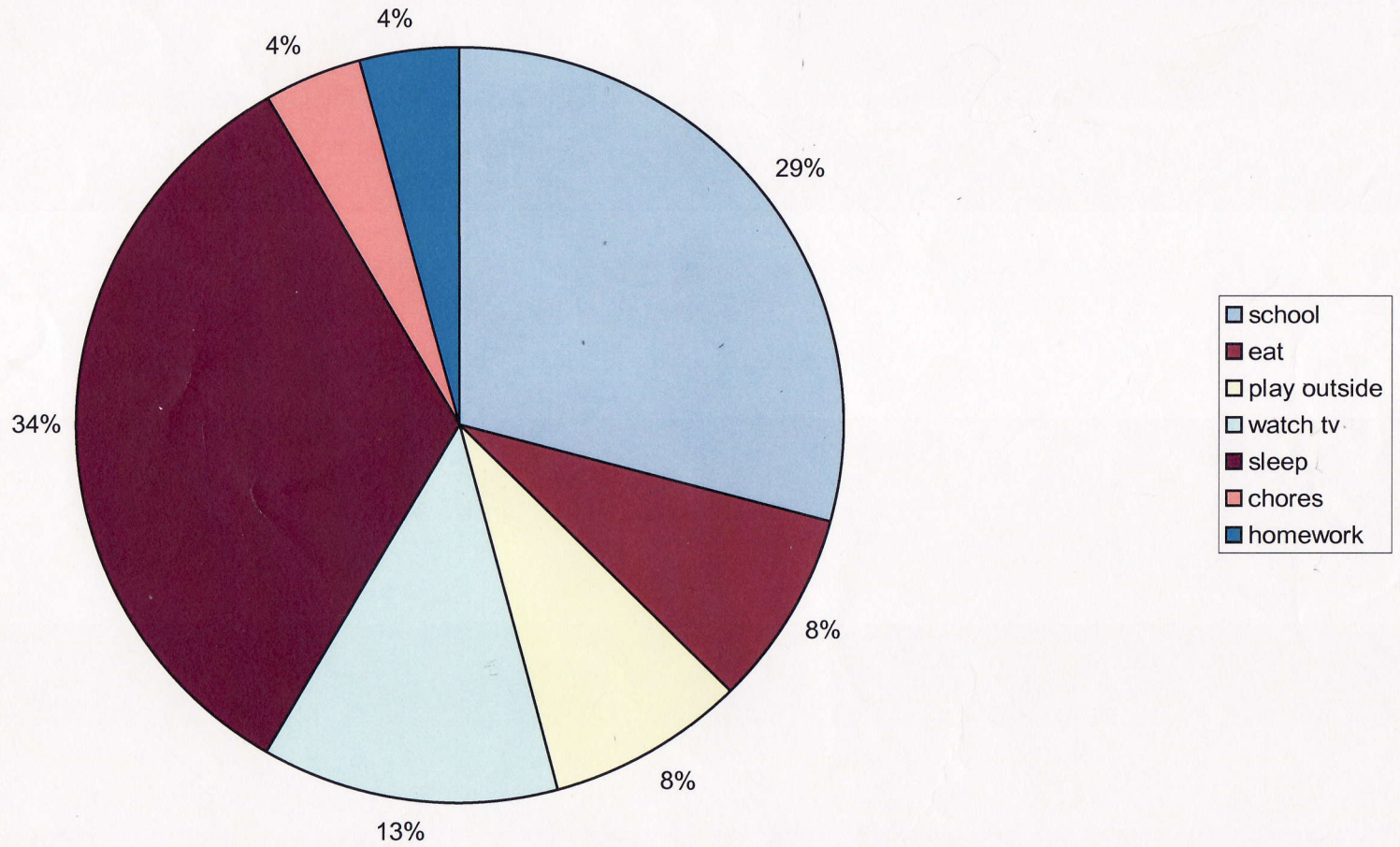1. What are the two types of graphs depicted in the handouts?

2. Do these graphs represent the same set of data? Why or why not?

3. What is the most popular daily activity? Do you agree?

4. If "watching TV" changed from 3 hours daily to 4 hours daily, what would the new percentage be in the pie chart for that activity?

How I divide my 24 hour day

4%   4%

29%

34%

8%

8%

13%

- □ school
- ■ eat
- □ play outside
- □ watch tv
- ■ sleep
- □ chores
- ■ homework

How I divide my 24 hour day