

Prior Knowledge Chart**Name**

Country	Economic Status	Physical Characteristics	Cultural Characteristics
Argentina			
Australia			
Bolivia			
Botswana			
Canada			
China			
Cote d'Ivoire			
Fiji			
Germany			
Guatemala			
Hong Kong			

India			
Indonesia			
Italy			
Kuwait			
Mexico			
Saudi Arabia			
Singapore			
South Africa			
United States			
Uzbekistan			

Access to Modern Communication

The economic health of a country often depends on access to modern communication. Finding new people to buy products or making connections with new markets requires such modern devices as cell phones and the Internet.

It used to be that modern communication was limited to Europe, North America, Japan, and a few other pockets of the world in the 20th century. But the world is going global in the 21st century.

There are now more than 1.7 billion members of “the consumer class” – nearly half of them in the developing world. Worldwide, private consumption expenditures, the amount spent on goods and services at the household level, topped \$20 trillion in 2000 – a four-fold increase over 1960 (figures adjusted for 1995 dollars).

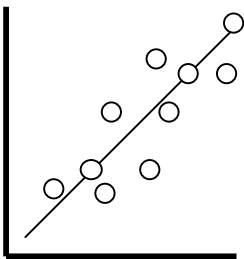
More people are gaining access to information than ever before. In 2004, about three-quarters of humanity had access to at least one television set. In the year 2003, the number of cell phone lines (1.2 billion) became greater than the number of fixed phones (1.1 billion) and in 2013, ten years later, there were 6.8 billion cell-phone subscriptions. In 2004, the Internet connected about 650 million users and now, 10 years later (2014) there are four times more - 2,802,478,934 internet users.

This growth of communication is critical to the economic growth of poor countries. However, the poverty of a country might influence its ability to get modern communication devices.

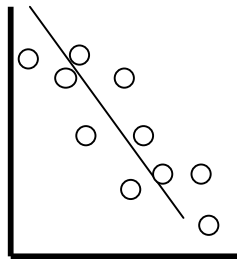
THE QUESTION: How much does the wealth of a country influence the ability of people to get information from electronic sources (TV, cell phones, Internet)? You will answer this question using scatter plots.

Scatter Plots

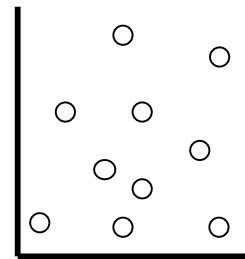
- A scatter plot is a set of points that show a relationship between two sets of data.
- Sometimes these points form a pattern. Such a pattern is called a trend.
- After a scatter plot is completed, a line that approximately "fits" the points is drawn.
- This "trend line" can be used to predict the results for situations where data was not collected.
- Scatter plots and trend lines show positive, negative, and no trend.



Positive Trend



Negative Trend



No Trend

Data Table: Does wealth of a country affect the ability to get information?

Country	GNI* per person	Persons per TV	Persons per Cell Phone 2004 / 2014 **	Persons per Internet Access ***
Argentina	\$17,250	5	13 / 1	2
Australia	\$65,520	2	2 / 1	1
Bolivia	\$2,550	10	74 / 1	2
Botswana	\$7,730	10	6 / 1	7
Canada	\$52,200	1	4 / 1	1
China	\$6,560	3	20 / 1	2
Cote d' Ivoire	\$1,380	16	38 / 1	50
Fiji	\$4,430	10	167 / 1	3
Germany	\$46,300	2	1 / 1	1
Guatemala	\$3,340	11	21 / 1	5
Hong Kong	\$38,420	4	2 / 1	1
India	\$1,570	17	358 / 1	7
Indonesia	\$3,580	17	220 / 1	7
Italy	\$34,400	2	3 / 1	2
Kuwait	\$88,170	2	10 / 1	1
Mexico	\$9,940	4	52 / 1	2
Saudi Arabia	\$26,200	5	8 / 1	17
Singapore	\$54,040	3	2 / 1	2
South Africa	\$7,190	7	6 / 1	2
United States	\$53,670	1	4 / 1	1
Uzbekistan	\$1,900	11	200 / 1	3

* GNI (formerly the term Gross National Product was used) is the Gross National Income, converted to U.S. dollars using the World Bank Atlas method, divided by the midyear population.

When graphing GNI, round the numbers to the nearest \$100.

Example: \$970 ~ \$1000

**Note: As of 2014 each country listed above now averages 1:1 cell phones

*** Internet access means access to the worldwide network

Note: there are 21 countries listed here.

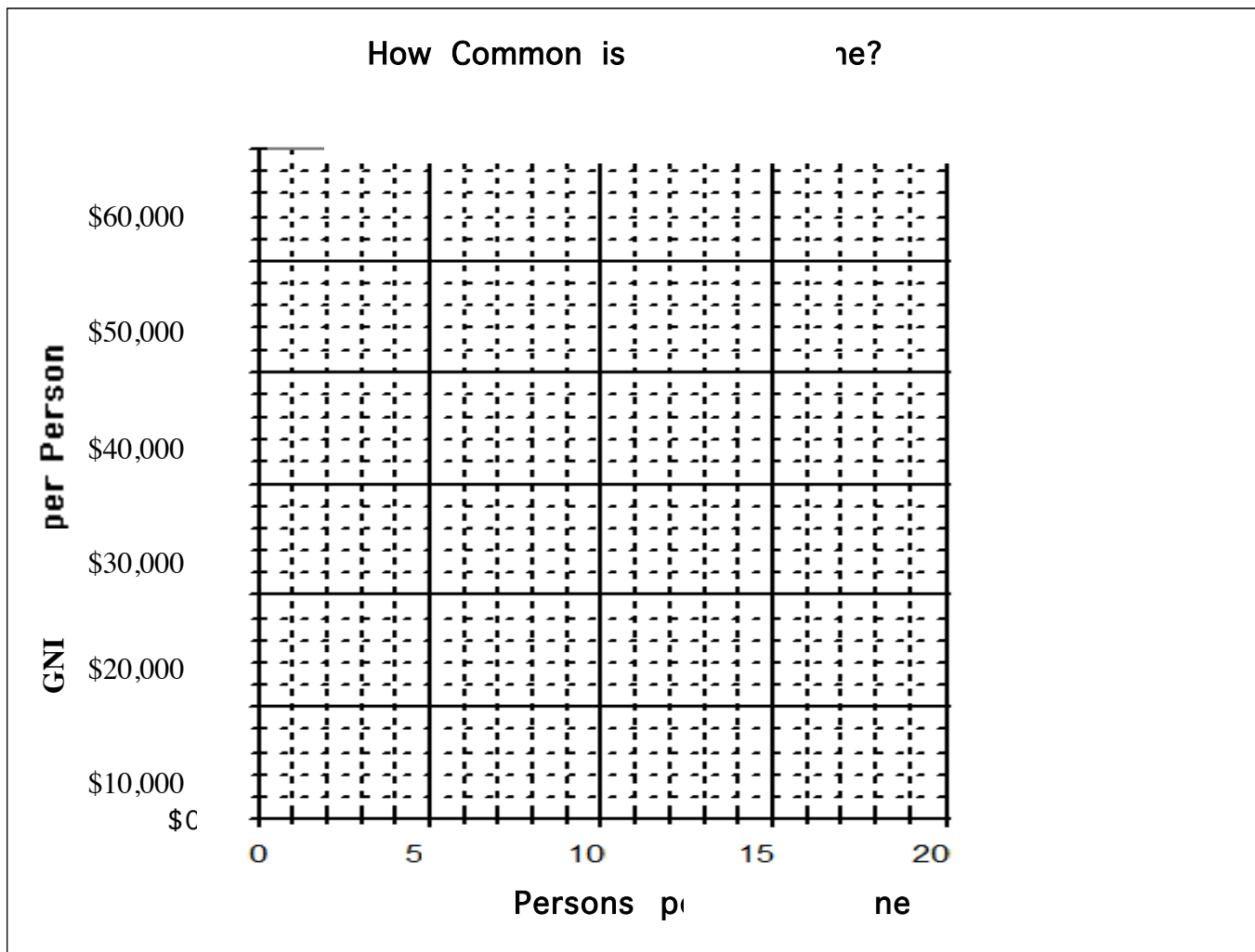
Name: _____

Period: _____

Instructions: Use the data from the data table to create a scatter plot comparing GNI per Person and Number of Persons per TV. Label each point with the name of the country.

Hint: Look at scales for both axes before you begin.

How Common is Television?



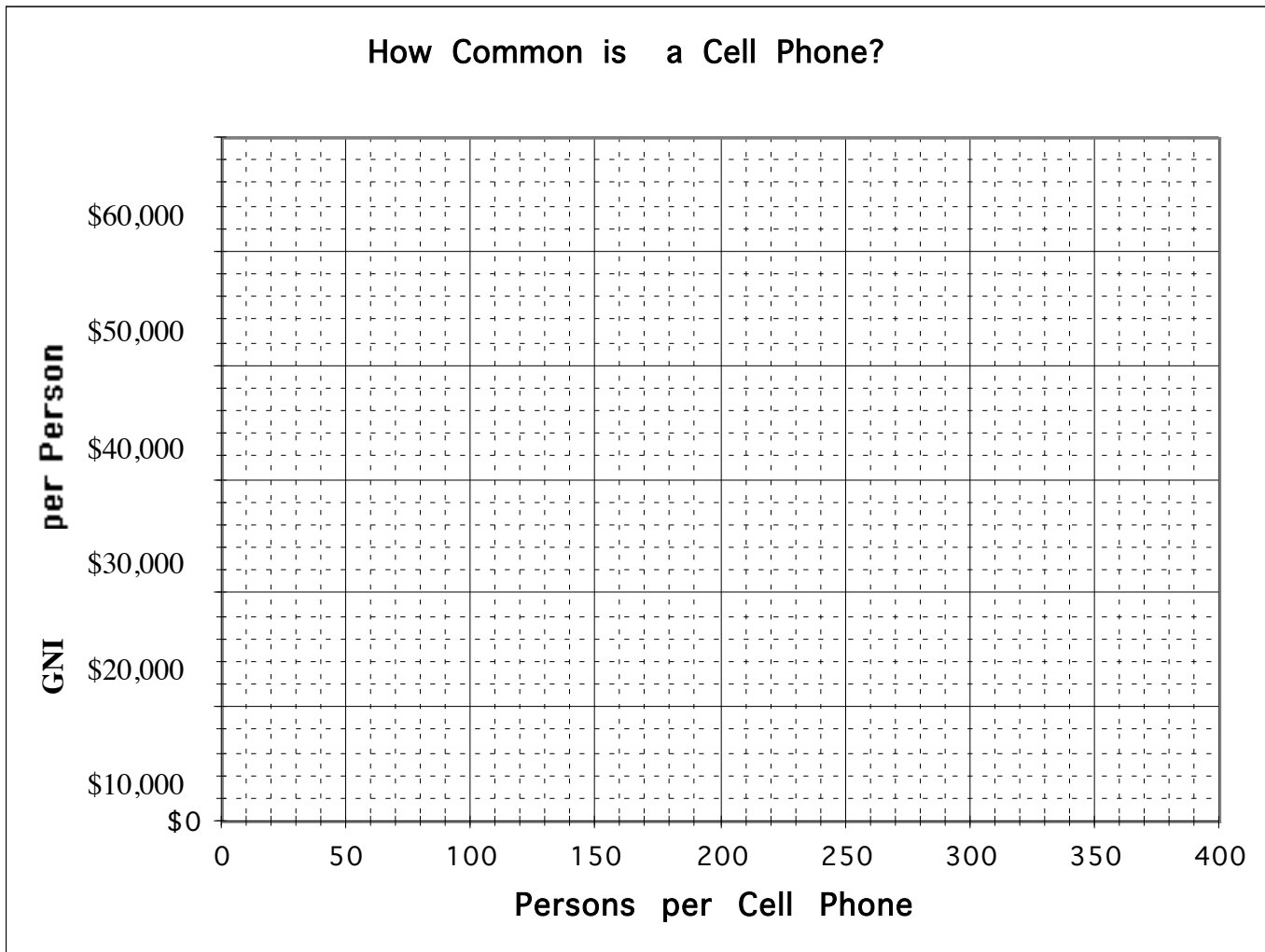
Persons per Television

Name: _____

Period: _____

Instructions: Use the data from the data table to create a scatter plot comparing GNI per Person and Number of Persons per Cell Phone. Label each point with the name of the county. Label 2004 data in black and 2014 data in red.

Hint: Look at scales for both axes before you begin.

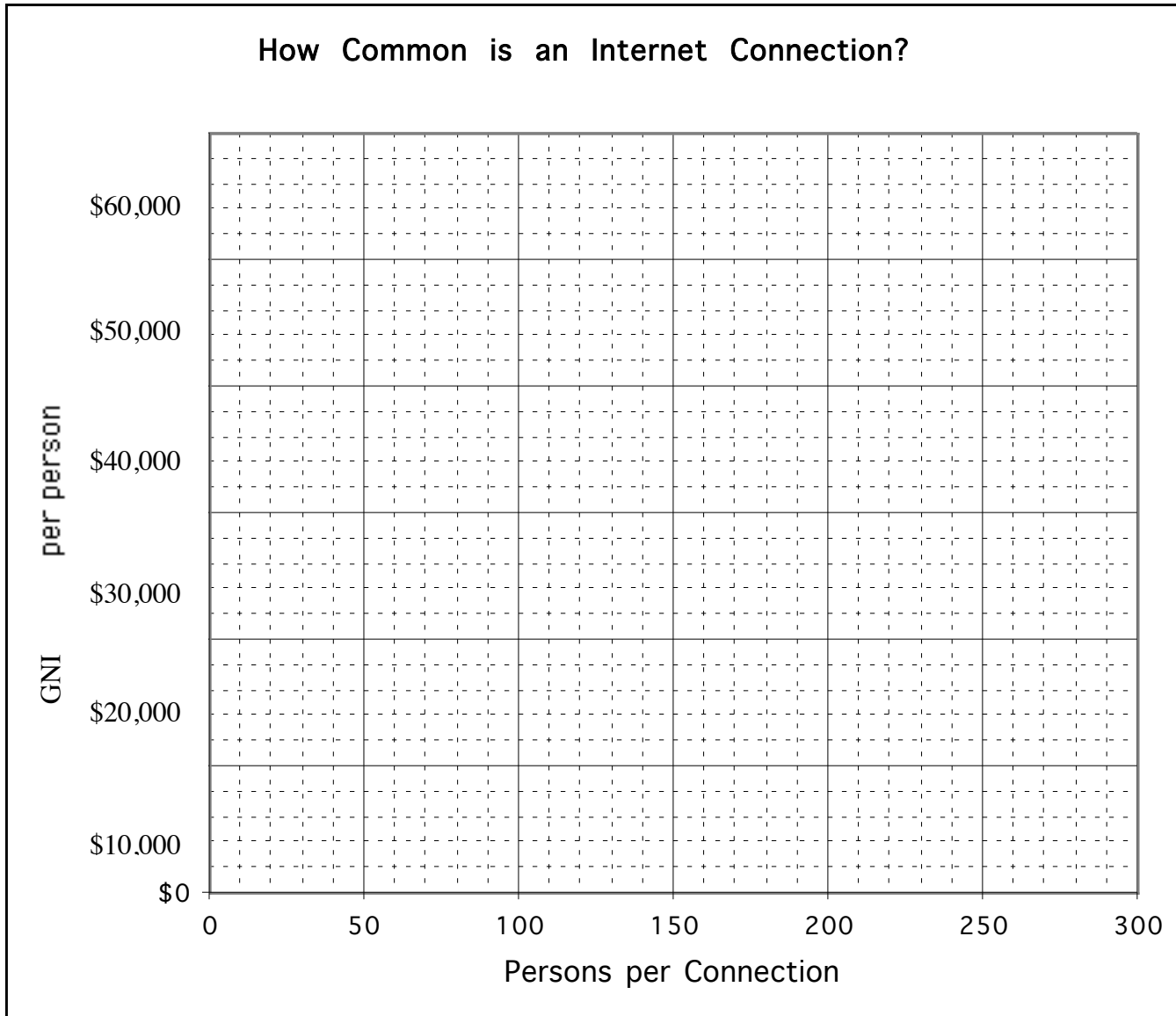


Name: _____

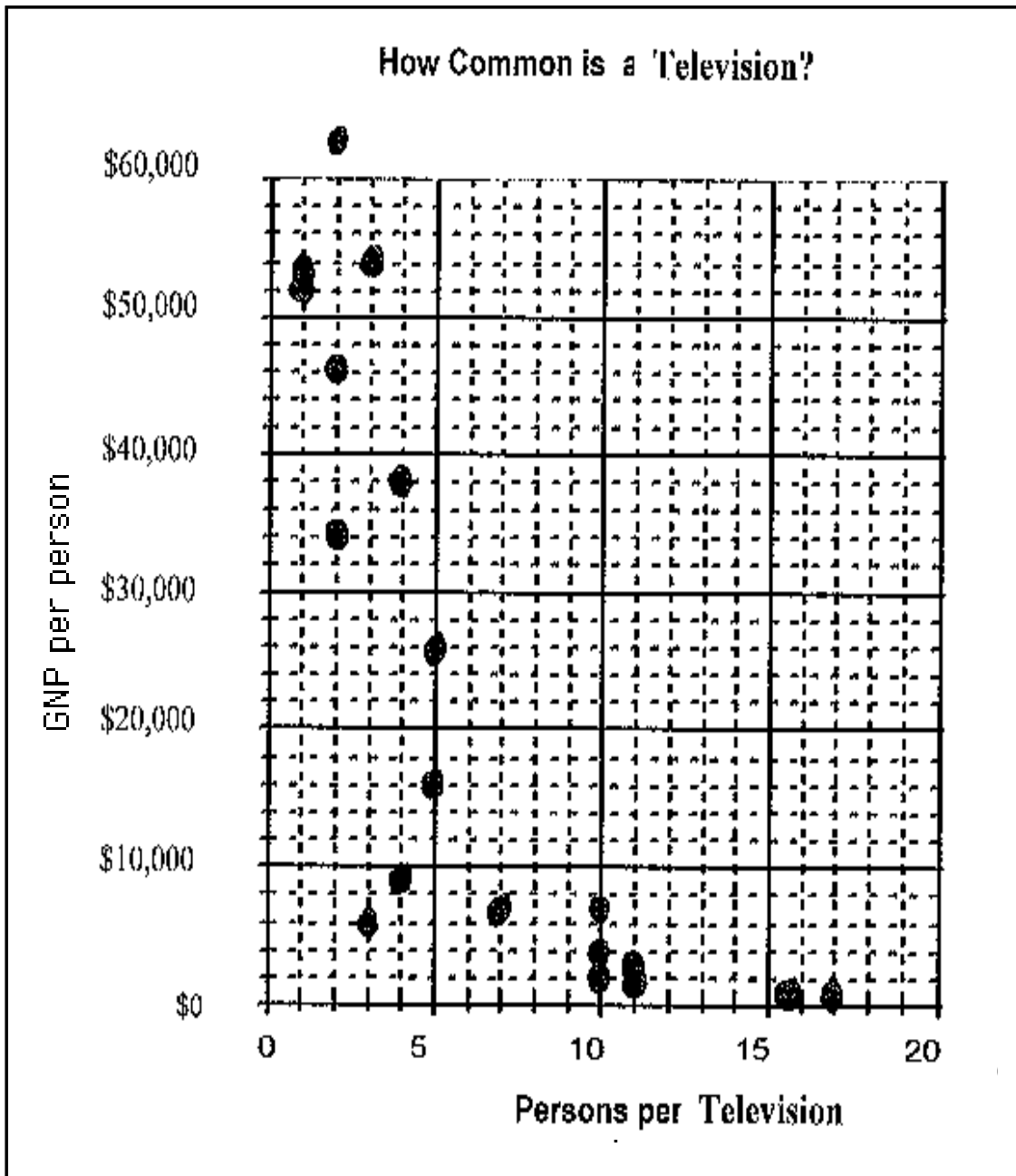
Period: _____

Instructions: Use the data from the data table to create a scatter plot comparing GNI per Person and Number of Persons per Internet Connection. Label each point with the name of the county.

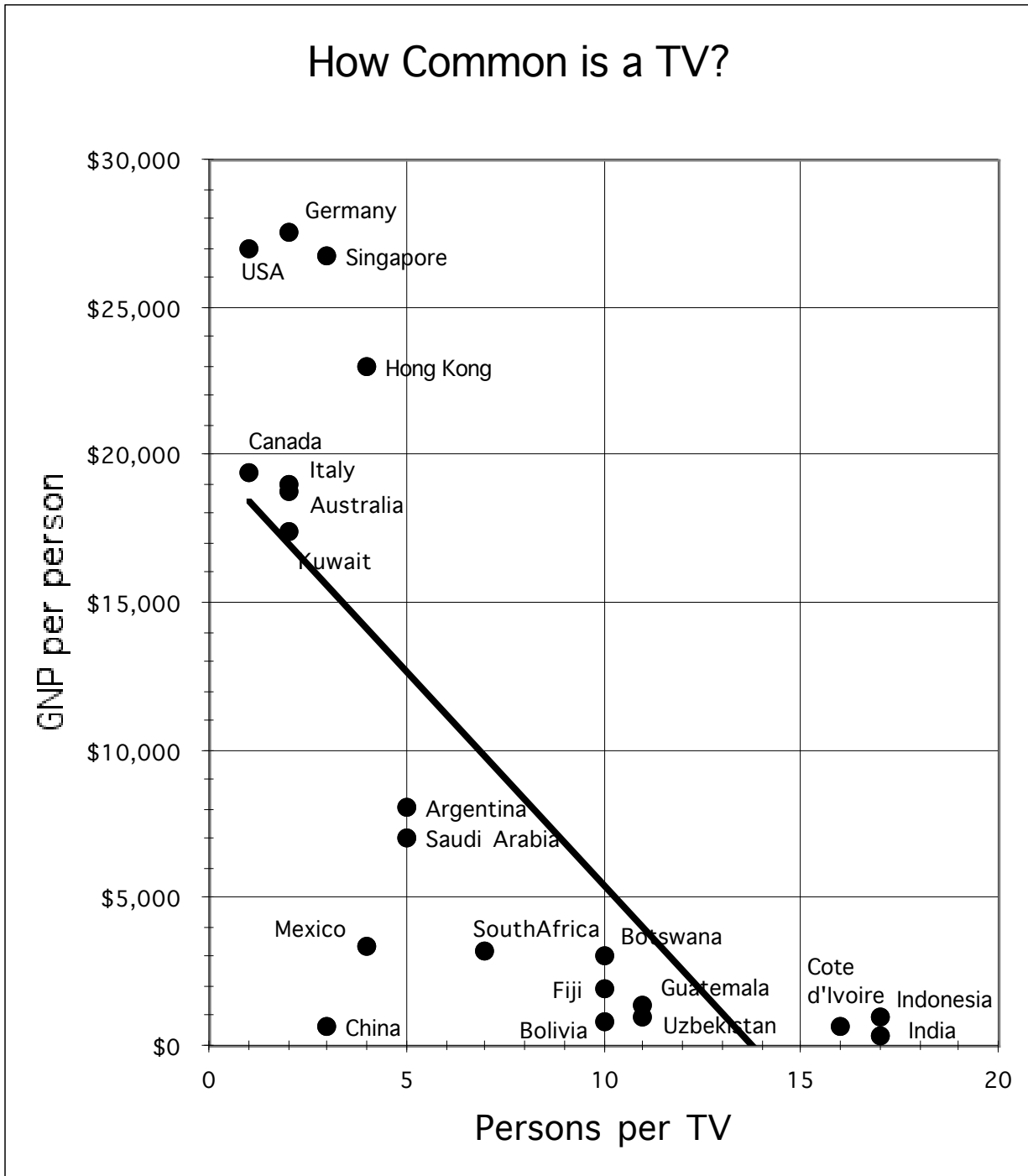
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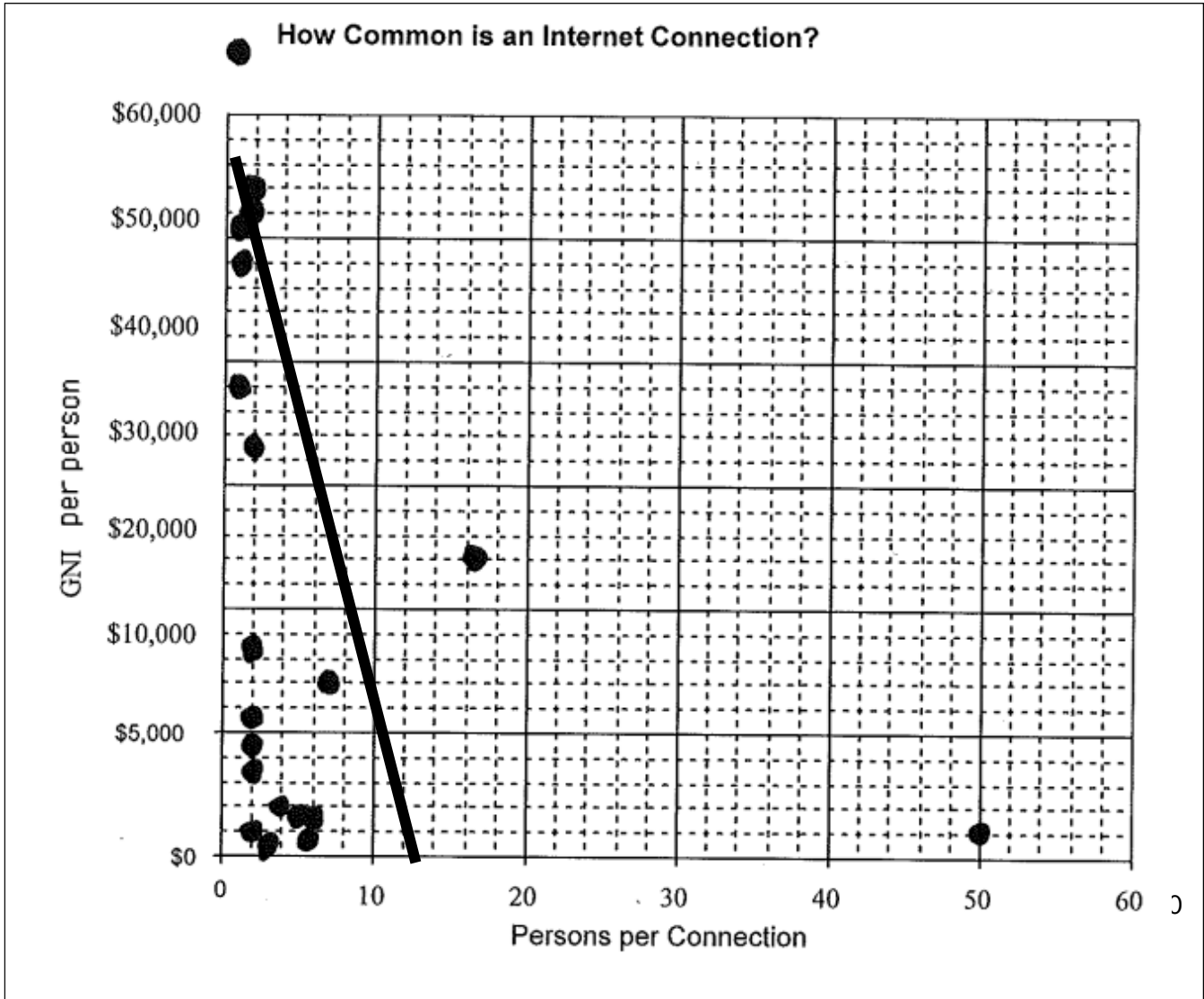
SCATTER PLOT KEY



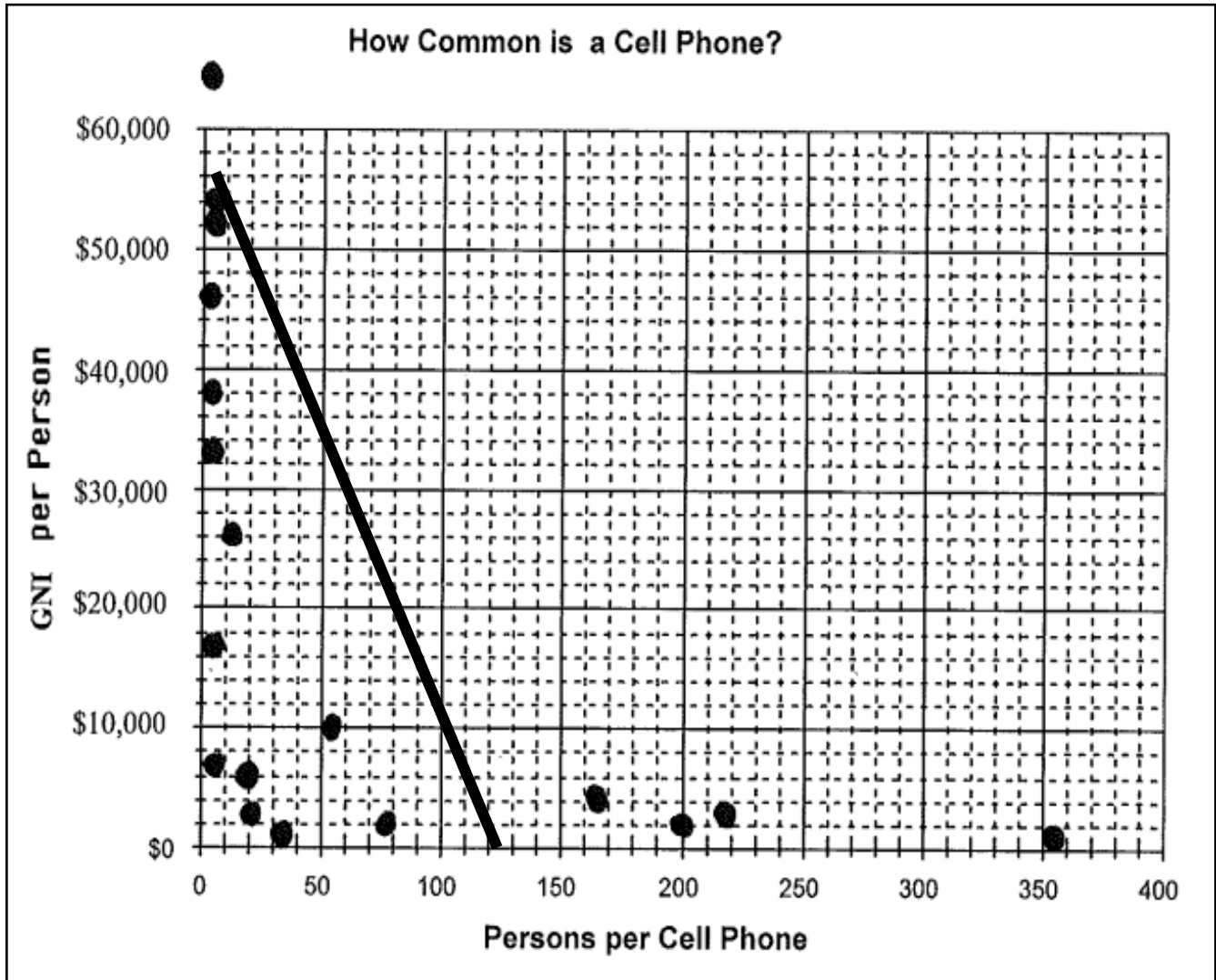
EXAMPLE - labeling countries on TV scatter plot and its trend line.



SCATTER PLOT KEY



SCATTER PLOT KEY for 2004 data



Interpreting the Scatter Plots to Learn Geography

Name: _____

Period: _____

Use your scatter plots to answer the following questions. Fill in the circle with the correct answer

Use your scatter plot of TVs to answer questions 1 - 3.

1. How many of the listed countries have five or less persons to share one TV?
 - a. More than half
 - b. Half
 - c. Less than half
 - d. No countries have five or less persons sharing one TV
2. What is the connection between income (as measured by Gross National Income per person) and access to TV?
 - a. People in countries with less income (GNI per person) have greater access to TVs
 - b. People in countries with more income (GNI per person) have greater access to TVs
 - c. Income (GNI per person) has no influence on access to TVs
 - d. You cannot answer the question using the scatter plot
3. Use the trend line on your graph to predict the number of Persons per TV in a country whose GNI per Person is 10,000.
 - a. 15 persons per TV
 - b. 10 persons per TV
 - c. 7 persons per TV
 - d. 3 persons per TV

Use your scatter plot of Cell Phones to answer questions 4 - 6.

4. In 2004, what is the GNI per person that seems to be needed for cell phones to be common (when there are 10 people or less per phone)?
 - a. More than \$1,000 per person
 - b. More than \$5000 per person
 - c. More than \$15,000 per person
 - d. More than \$25,000 per person

5. From the 2004 data, what country has over 300 people for each cell phone?

- a. China
- b. India
- c. United States
- d. Indonesia

6. Use the trend line on your cell phone graph for the 2004 data to predict the number of Persons per Cell Phone in a country whose GNI per Person is \$10,000.

- a. 10 persons per Cell Phone
- b. 40 persons per Cell Phone
- c. 200 persons per Cell Phone
- d. 340 persons per Cell Phone

Use your scatter plot of Internet Connection to answer questions 7 and 8.

7. The trend line for your Internet Connection scatter plot is negative. This means

- a. As GNI per Person decreases, the number of People per Connection increases.
- b. As GNI per Person decreases, the number of People per Connection decreases.
- c. As the number of People per Connection decreases, the GNI per Person decreases.
- d. Only countries with very high GNI per Person have Internet connection.

8. What is the GNI per Person that seems to be necessary to have 3 or less people per Internet connection?

- a. \$10,000
- b. \$14,000
- c. \$16,000
- d. \$18,000

KEY: Interpreting the scatter plots to learn Geography

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c. As the number of People per Connection decreases, the GNI per Person decreases.

d. Only countries with very high GNI per Person have Internet connection.

8. What is the GNI per Person that seems to be necessary to have 3 or less people per Internet?

a. \$10,000

b. \$14,000

c. \$16,000

d. \$5,000

Selling Your Story to an Editor

Name: _____

Period: _____

Instructions: During this lesson, you have used scatter plots to analyze information on whether people have access to modern communication in different countries.

In this assignment, you have the role of a newspaper reporter "selling" this great story to your editor. The first step is to convince your editor that you have discovered a great story. The editor wants a one-paragraph summary of what you have found, and he/she will use your paragraph to decide if your story will "run" in the paper.

This summary paragraph starts with a first sentence giving your thesis on whether country wealth influences access to modern communications. The body of the paragraph (4 or more sentences) supports your thesis with specific examples. The paragraph ends with the sentence: "The title of my article would be "... " and you have to provide an appropriate title. If you run out of space, you can continue on the backside.
