

Name _____

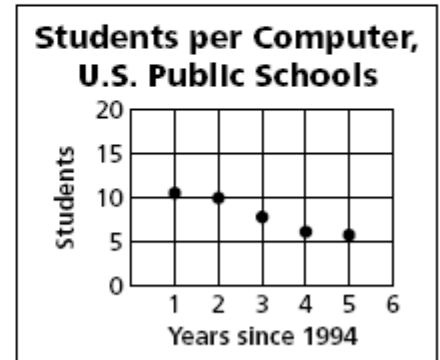
Date _____ Pd. _____

Notes: Graph Misuse

Misleading Graphs Graphs are very useful for displaying data. However, some graphs can be confusing, easily misunderstood, and lead to false assumptions. These graphs may be mislabeled or contain incorrect data. Or they may be constructed to make one set of data appear greater than another set.

Example

The graph at the right shows the number of students per computer in the U.S. public schools for the school years from 1995 to 1999. Explain how the graph misrepresents the data.

Source: *The World Almanac*

Name _____

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Exit Card: Graph Misuse

The table below shows the number of dogs in the United States that can perform certain tricks.

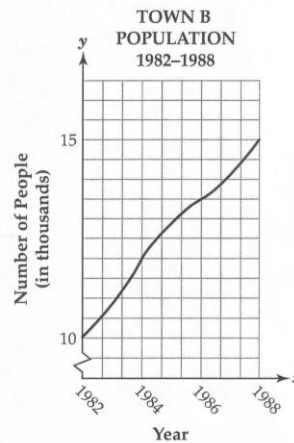
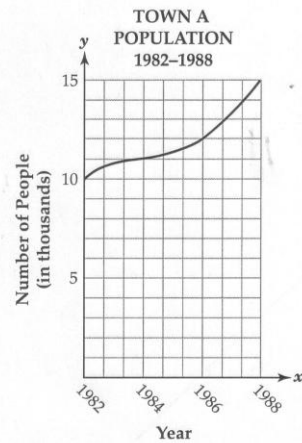
DOG TRICKS

Trick	Number (in millions)
Sit	5.3
Shake paw	3.8
Roll over	2.9
Stand on hind legs	1.9
Sing	0.8
Fetch newspaper	0.4

Steve adds the values in the table for dogs that can stand on hind legs and dogs that can sing. He concludes that there are 2.7 million dogs in the United States that can stand on their hind legs or sing. Why is this statement a misuse of data?

- A Steve did not consider some dogs do no tricks.
- B Steve did not consider some dogs do only one trick.
- C Steve did not consider all the dogs in the United States.
- D Steve did not consider that some dogs can do both tricks.

The graphs below show the number of residents in Town A and Town B from the years 1982 to 1988. The two towns have comparable populations. The mayor of Town B uses the graphs to claim that there was a larger increase in the number of residents in Town B than in Town A from the years 1982 to 1988.



According to the information given, which of these explains why the graphs are misleading?

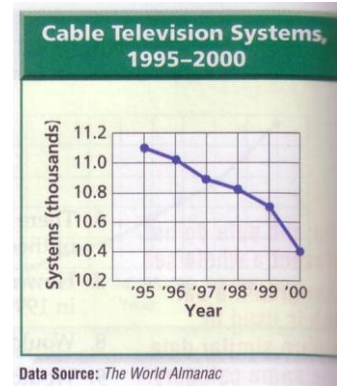
- A The time periods are different.
- B The types of data are different.
- C The vertical scales are different.
- D The population of the towns are different.

Name _____

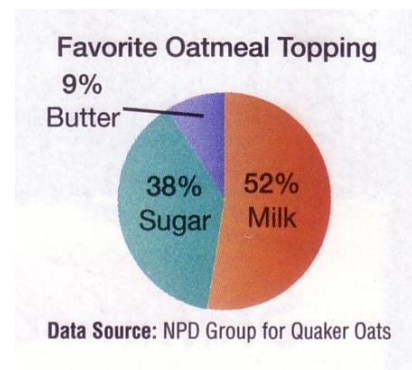
Date _____ Pd. _____

Homework: Pages 54 – 55 (16 – 18)

16. The line graph shows the number of cable television systems in the United States from 1995 to 2000. Explain how the graph misrepresents the data.



17. Oatmeal can be found in 80% of the homes in the United States. The circle graph shows the favorite oatmeal toppings. Is the graph misleading? If so, explain why and tell how the graph can be fixed so that it is not misleading.



18. The table shows the percent of United States households owning a color television for the years 1980 to 2000.

a. Display the data in a line graph that show little increase in ownership.

Households with Color Televisions	
Year	Percent
1980	83
1985	91
1990	98
1995	99
2000	99

Source: *The World Almanac*

b. Draw a line graph that shows a rapid increase in the number of households owning a color television.

c. Are either of your graphs misleading? Explain.