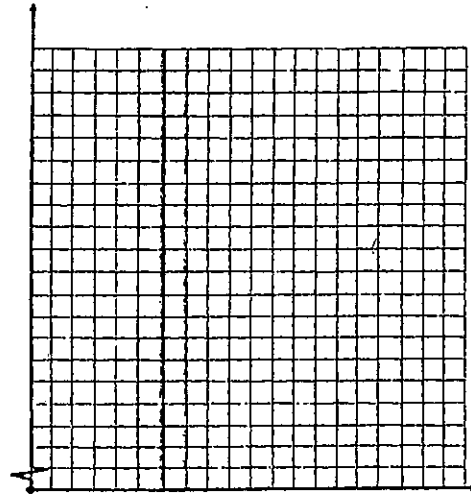


1. Using the following Olympic Data to answer the questions below:

- a. Draw a scatter plot of the data and determine the relationship that exists, if any, and describe its meaning.

Year	Time (seconds)	Year	Time (seconds)
1924	362.2	1968	271.8
1928	342.8	1972	259.44
1932	328.5	1976	249.89
1936	326.4	1980	248.76
1948	317.8	1984	247.10
1952	312.1	1988	243.85
1956	294.6	1992	247.18
1960	290.6	1996	247.25
1964	283.3	2000	245.80

Source: ESPN Sports Almanac



- b. Manually draw a line of best fit.
- c. Using the line drawn in part b. find the equation of your line drawn in slope-intercept form ($y = mx + b$).

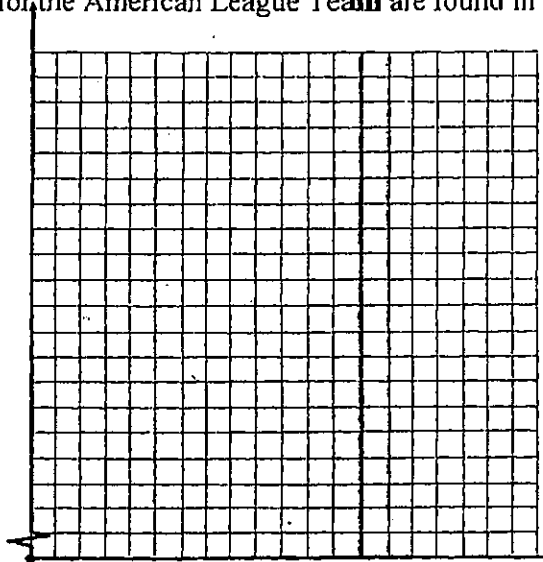
2. Now, predict the winning time at the 1990 world games using the equation:

- a. From part c.

Using the following data to answer question 4.

-The HR total and win total for the American League Team are found in the table below.

HR Total	Win Total
38	14
36	14
34	13
33	21
33	17
32	16
32	16
26	21
26	14
22	14
21	16
18	20
16	14
16	16



4. Draw a scatter plot of the data and determine the relationship that exists, if any and describe its meaning.

5. Which of the following situations describes a correlation **that is not** causal relationship?

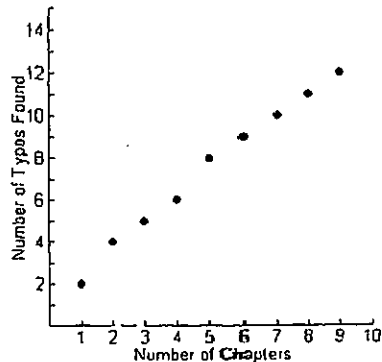
- a. My alarm goes off, I wake up.
- b. Popeye eats spinach, he gets stronger.
- c. I stay after school and get help; I do better on a **quiz**.
- d. As time goes by, corn production goes up in the U.S.A.

6. Which situation should be analyzed using univariate data?

- a. Comparing shoe size to height
- b. Measuring the lengths of rivers in the U.S.A.
- c. Measuring study time versus grades on a test.
- d. Comparing a team's matting average and their **number** of wins.

7. If you were asked to interpolate information from this **graph**, you would have to be careful to limit the number of chapters to:

- a. Between 2 and 8 chapters
- b. Between 1 and 9 chapters
- c. 2, 4, 6 and 8 chapters only
- d. There is no need to limit the number of chapters



8. Which situation should be analyzed using univariate data?

- a. Temperature and days of the week
- b. Days of the week and time of the day
- c. Time of the day and temperature
- d. Temperature.

9. Which variables have a causal relationship?

- a. The time spent on homework and the school I go **to**.
- b. The depth of a pool and the temperature of the air **outside**
- c. The horsepower in a car and the top speed.
- d. The height of a flower and the number of pedals **on** it.

10. If you were asked to extrapolate information from this **graph**, you would need to be careful to limit your prediction to:

- a. Between 20 and 40
- b. Less than 20
- c. More than 40
- d. Both less 20 and more than 40.

Hours Worked	Money Made
23	400
37	620
20	410
31	535
40	650
38	615
24	475