

DRY MIX

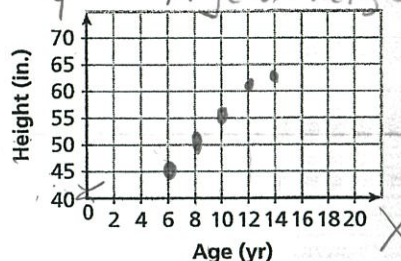
**PRACTICE**

Bob recorded his height at different ages.

Age (years)	6	8	10	12	14
Height (inches)	45	50	55	61	63

Dependent = Y  
Independent = X

Age vs Height



1. Make a scatter plot of Bob's data.
2. Describe the type(s) of **association** between Bob's age and his height. Explain.

Positive Association. As Bob's age increases his height also increases

only in 1st Quadrant b/c it's real life + Age + Height can't be neg.

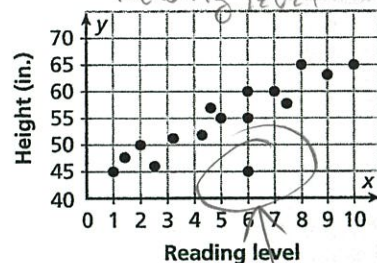
always say 'x' B-y 'y' variables

Ms. Banks recorded the height and reading level of several students.

3. Describe the type(s) of association between a student's height and his or her reading level. Explain.

Positive Association. As the student's reading level increases, their height also increases

Reading level vs. Height



4. **Error Analysis** Ms. Banks concludes that an increase in reading level **causes** an increase in height. Explain whether you agree with her conclusion.

NB/C It has correlation & NOT causation. One does NOT cause the other.

5. Add a point that is an outlier to the graph. Then, explain why it is an outlier.

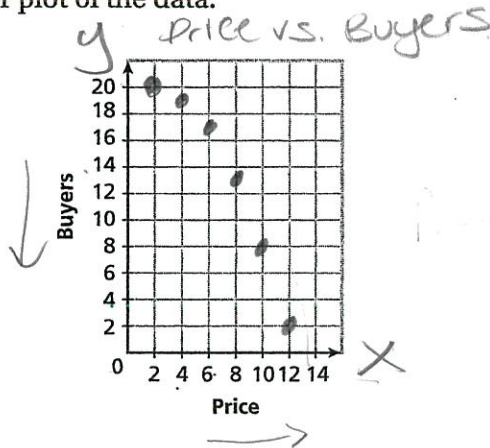
(6, 45) is an outlier b/c it's not near the other plotted values



- 6) Susan surveyed 20 people about the price of a cleaning product she developed. She asked each person whether they would buy the cleaner at different prices. A person may answer yes or no to more than one price. Susan's results are shown in the table.

Price (\$)	Buyers
2	20
4	19
6	17
8	13
10	8
12	2

- A Make a scatter plot of the data.



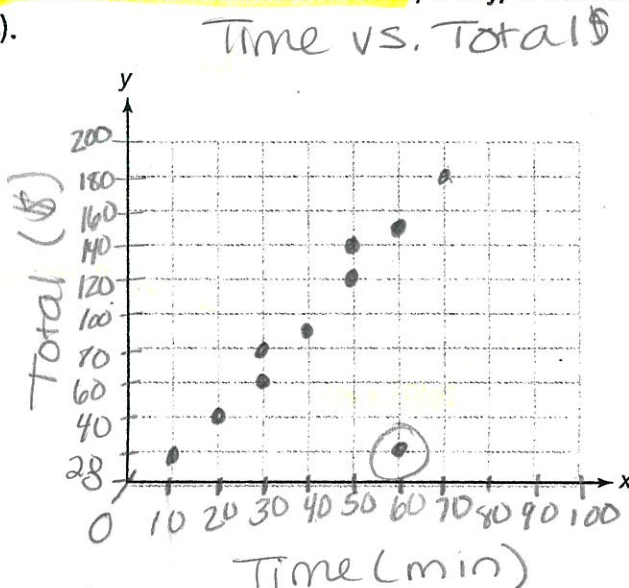
- B Describe the type(s) of association you see between price and number of people who would buy at that price. Explain.

Negative Association AS the price increases, the amount of buyers decreases

- 7) **CREATE** The table shows the numbers of minutes 10 shoppers spent in a supermarket and the total amount each spent during that shopping trip. On the grid below, create a scatter plot using the data in the table. Then describe the association shown, if any, in as many ways as possible. Identify any outlier(s).

Time and Total Spent

Time (in min)	Total (in USD)
10	\$20
30	\$80
50	\$120
20	\$40
60	\$150
30	\$60
40	\$90
70	\$180
60	\$20
50	\$140



outlier: (60, 20)  
 Positive Association: As the time increases, the total \$ spent also increases

**Practice**

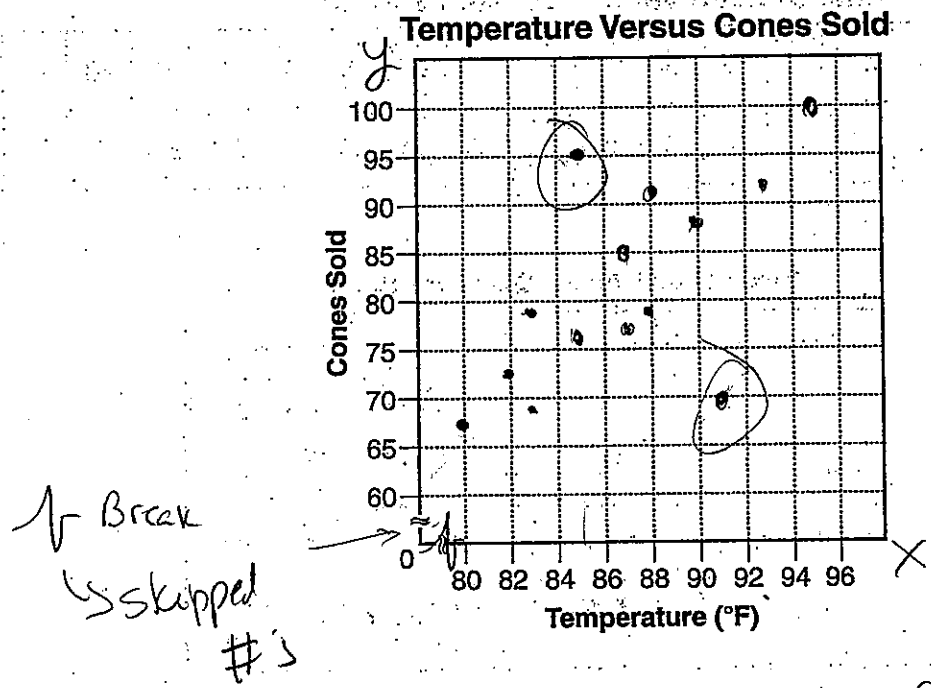
Directions: Use the following information to answer questions 1 through 4.

Christina works at the ice cream shop during summer vacation. She uses the following table to record the highest temperature each day for two weeks and the number of ice cream cones she sold on each of those days.

**Temperature Versus Cones Sold**

x y	85	87	91	95	88	83	80	82	88	90	93	85	87	83
Temperature (°F)	76	77	70	100	91	79	67	73	78	87	92	95	85	68
Cones Sold														

1. Use the information from the table to create a scatter plot of the data.



2. Does the scatter plot represent a clustering of data points?

82° - 88°

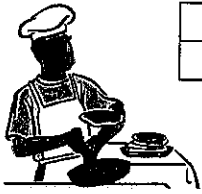
3. Is there a Correlation/association between the high temperature and the number of ice cream cones sold each day?

positive association As the temp. increases the # of cones sold also increases

4. Are there any outliers in the data? If so, what are the ordered pairs of the point(s)?

(85, 95) + (91, 70)

1) The owner of a diner wanted to find out if outside temperature affects soup sales. Create a scatter plot from the table below.



X	Temperature (in F)	30	32	35	40	40	45	54	60	64	68
Y	Bowls of Soup Sold	8	50	42	42	38	28	22	15	16	5

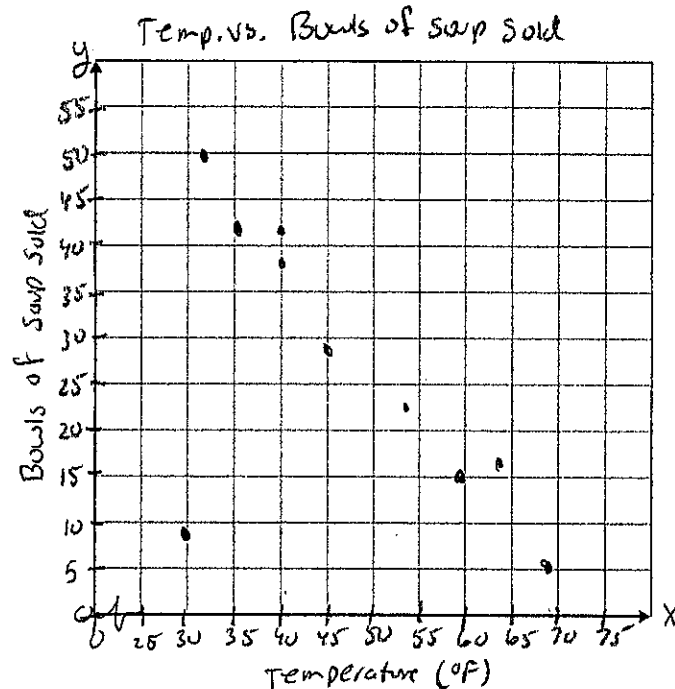
a) Plot the data points on the above coordinate grid.

b) What conclusion can you make based on the graph?

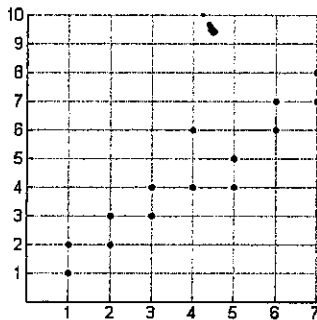
Negative correlation: As the Temperature increases, the number of bowls of soup sold decreases

c) Are there any outliers?

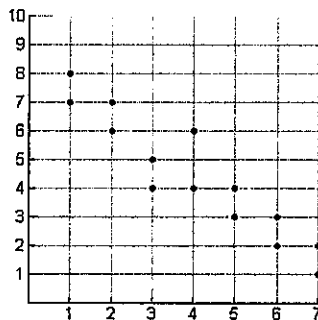
yes! (30, 8)



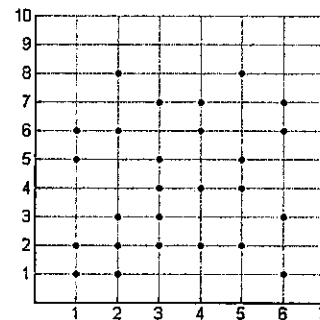
2) For each scatterplot; tell whether the association (correlation) (relationship) is positive, negative, or no association.



positive



Negative



NO association

3) The coaches of a group of debate teams answered a survey about hours of debate, team practice, and number of team wins. The graph shows the results of this survey.

The scatterplot indicates which of the following?

- (1) Positive correlation
- (2) Negative correlation
- (3) No correlation
- (4) A parallel correlation

