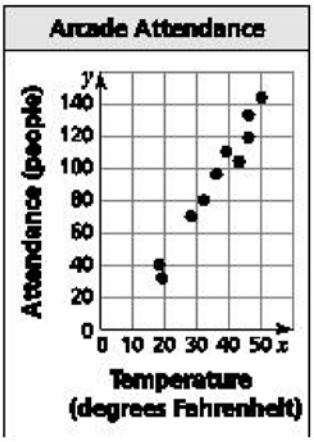
Name: _____ **Class:** _____ **Date:** _____ **ID: A**

Chapter 9 Final Review

Multiple Choice
Identify the choice that best completes the statement or answers the question.

____ 1. The owner of an arcade measured the outside temperature each Saturday at noon and recorded the number of people in the arcade. The scatter plot shows the data collected. Which description fits the data in the scatter plot?



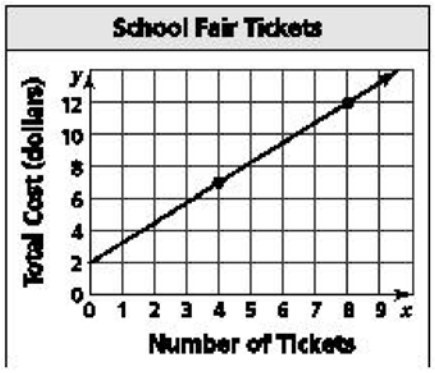
a. As temperature increases, more people come to the arcade.
b. As temperature increases, fewer people come to the arcade.
c. The number of people at the arcade is always the same.
d. There is no relationship between temperature and the number of people at the arcade.

____ 2. Use the table below. Which linear function relates y to x?

x	1	3	5	7	9
y	11	9	7	5	3

a. $y = 11x$
b. $y = -2x + 13y$
c. $y = -x + 12$
d. $y = x - 2$

____ 3. The graph shows the cost of attending the school fair. What is the slope of the line?



a. 0.8
b. 1
c. 1.25
d. 2

Name the word that matches the definition given.

____ 4. A graph that shows the relationship between two data sets using ordered pairs in a coordinate plane.
a. scatter plot
b. line of fit
c. line of best fit
d. two-way table
e. joint frequency
f. marginal frequency

____ 5. A precise line of fit that best models a set of data.
a. scatter plot
b. line of fit
c. line of best fit
d. two-way table
e. joint frequency
f. marginal frequency

____ 6. Each entry in a two-way table
a. scatter plot
b. line of fit
c. line of best fit
d. two-way table
e. joint frequency
f. marginal frequency

____ 7. The sums of the rows and columns in a two-way table.
a. scatter plot
b. line of fit
c. line of best fit
d. two-way table
e. joint frequency
f. marginal frequency

____ 8. Displays two categories of data collected from the same source.
a. scatter plot
b. line of fit
c. line of best fit
d. two-way table
e. joint frequency
f. marginal frequency

Name: _____ **ID: A**

Numeric Response

You randomly survey students about attending a swim meet. You display the two categories of data in the two-way table.

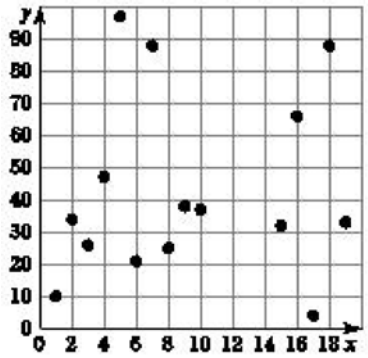
		Swim Meet	
		No	**Yes**
Gender	**Female**	29	42
	Male	40	20

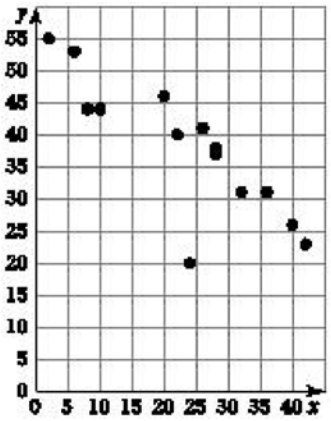
1. How many male students will *not* be attending the swim meet?

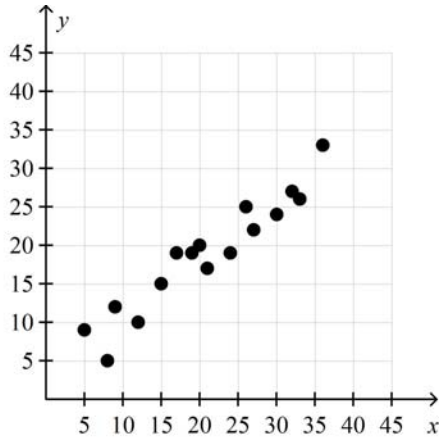
2. How many female students will be attending the swim meet?

Short Answer

Describe the relationship between the data. Identify any outliers, gaps, or clusters.

1. 

2. 

3. 

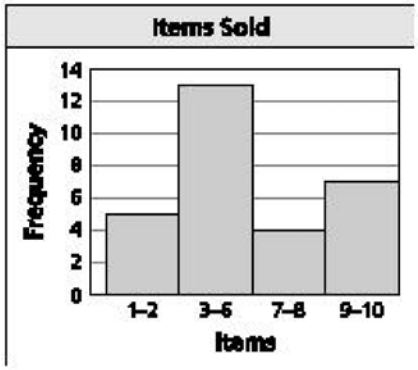
Choose an appropriate data display for the situation. Explain your reasoning.

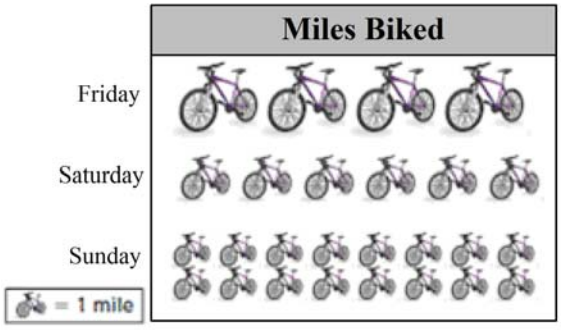
4. percent of student athletes in each sport

5. the profits of a company over a year

6. number of wins for each team in a baseball league at the end of the season

Explain why the data display is misleading.

7. 

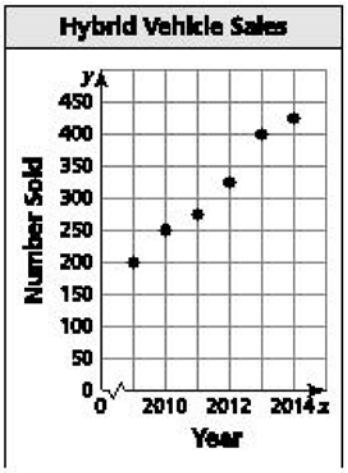
8. 

9. You randomly survey students about their involvement in school sports and the school music program. The two-way table shows the results.

		Sports		
		Involved	Not Involved	Total
Music Program	Involved	62	34	
	Not Involved	41	27	
	Total			

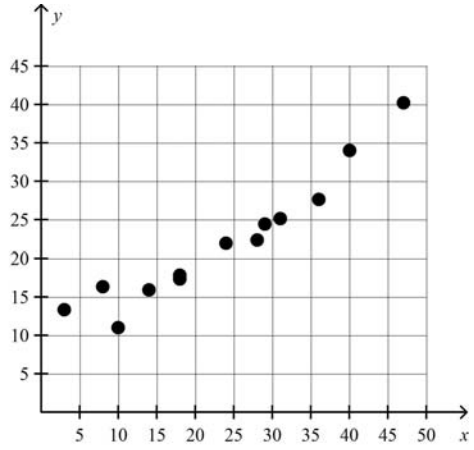
a. How many students are involved in the school music program but not school sports?
b. What percent of students are involved in both school sports and the school music program?
c. Find and interpret the marginal frequencies for the survey.

10. The scatter plot shows the numbers of hybrid vehicles sold in a city from 2009 to 2014.



a. In what year were 400 hybrid vehicles sold?
b. About how many hybrid vehicles were sold in 2012?
c. Describe the relationship shown by the data.

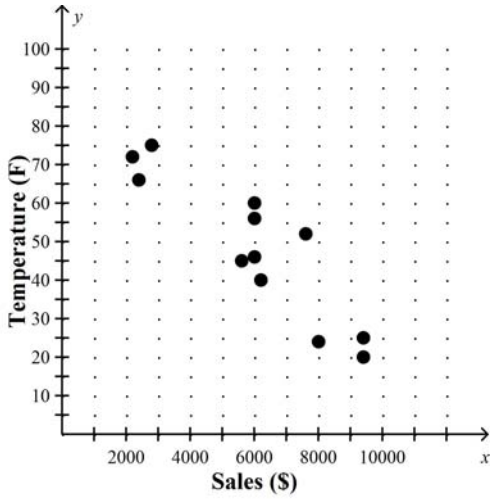
Tell whether the data show a *positive*, a *negative*, or *no* relationship.

11. 

12. The table shows the prices for different sizes of pizza. What type of relationship do the data show?

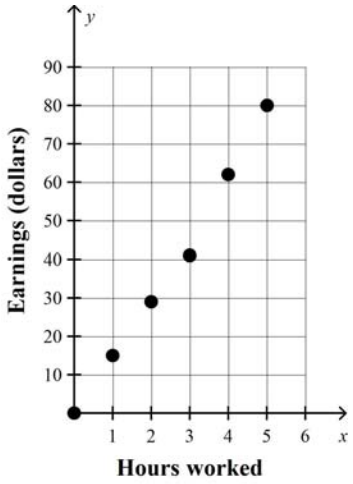
Diameter (inches), *x*	6	10	12	16
Cost (dollars), *y*	3.99	9.99	11.99	15.99

13. The scatter plot below shows the relationship between the temperature outside and the average amount of sales at various winter clothing stores.



a. Describe the relationship as positive, negative, or no relationship and also as linear or nonlinear.
b. Using the information from the graph, what is the average amount of sales when the temperature outside is 60 degrees?
c. Given the relationship, explain an instance that would create a data point that does not follow the trend.

14. The scatter plot shows the total earnings (wages and tips) of a food server during 1 day.



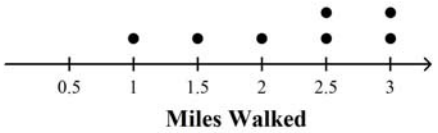
a. About how many hours must the server work to earn $35?
b. About how much did the server earn for 5 hours of work?
c. Describe the relationship shown by the data.

15. In what type of relationship do both data sets increase?

16. Explain the relationship between joint frequencies and marginal frequencies.

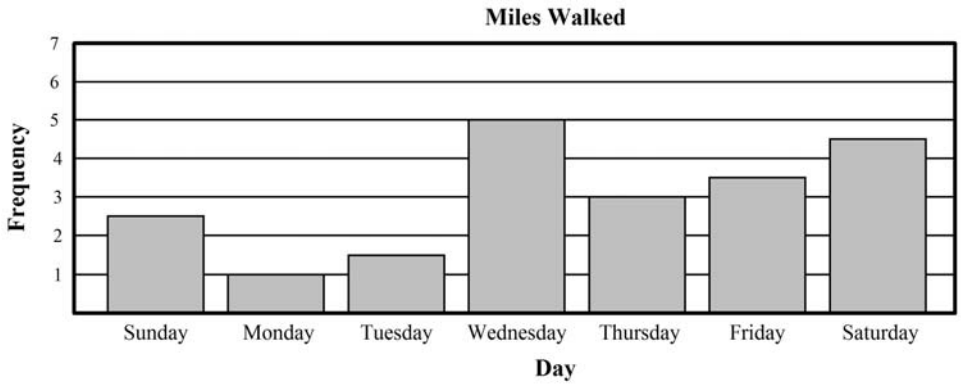
17. The table shows the number of miles walked last week. Tell whether the data display is appropriate for representing the number of miles walked last week.

Day	Sun	Mon	Tues	Wed	Thur	Fri	Sat
Miles walked	3	2	2.5	3	1	1.5	2.5



18. The table shows the number of miles walked last week. Tell whether the data display is appropriate for representing the number of miles walked last week.

Day	Sun	Mon	Tues	Wed	Thur	Fri	Sat
Miles walked	2.5	1	1.5	5	3	3.5	4.5



Chapter 9 Final Review
Answer Section

MULTIPLE CHOICE

1. A
2. C
3. C
4. A
5. C
6. E
7. F
8. D

NUMERIC RESPONSE

1. 40
2. 42

SHORT ANSWER

1. The scatter plot shows no relationship. There is a gap between $x = 10$ and $x = 15$.
2. The scatter plot shows a negative linear relationship. There is an outlier at (24, 20) and a gap between $x = 10$ and $x = 20$.
3. positive linear relationship; no obvious outliers, gaps, or clusters
4. *Sample answer:* circle graph; shows data as parts of a whole
5. *Sample answer:* line graph; shows changes over time
6. *Sample answer:* bar graph; shows data in specific categories
7. *Sample answer:* The second interval is larger than the others, making it hard to compare the frequencies.
8. The picture of the bikes are larger on Friday, which makes it seem like there are more of them.
9. a. 34 students
   b. about 37.8%
   c.

		Sports		
		Involved	**Not Involved**	**Total**
Music Program	**Involved**	62	34	96
	Not Involved	41	27	68
	Total	103	61	164

Sample answer: 164 students were surveyed. 103 students are involved in sports. 96 students are involved in the music program.

10. a. 2013
    b. 325 hybrid vehicles
    c. positive linear relationship
11. positive relationship
12. positive relationship
13. a. negative linear relationship
    b. $6000
    c. Example answers
    Sales are low when the temperatures are low because the prices for the clothing is too high.
    Sales are high when the temperatures are high because the stores are having a sale.
14. a. 2.5 h
    b. $80
    c. There is a positive relationship between hours worked and earnings.
15. positive relationship
16. The joint frequencies are the entries in the two-way table that differentiate the two categories of data collected; The marginal frequencies are the sums of the rows and columns of the two-way table.
17. yes; The dot plot shows the number of miles walked.
18. yes; The bar graph shows the number of miles walked each day of the week.