Name: _____ Score: _____ out of 100

Folder Check Stats Unit # 2

Name on all pages. _____

Pages 1-2 Worksheet Lesson 1 _____

Pages 3-4 Notes Lesson 1 _____

Pages 5-6 Worksheet Lesson 2 _____

Pages 7-8 Notes Lesson 2 _____

Pages 9-10 Worksheet Lesson 3 _____

Pages 11-12 Notes Lesson 3 _____

Pages 13-14 Worksheet Lesson 4 _____

Pages 15-16 Notes Lesson 4 _____

Pages 17-18 Worksheet Lesson 5 _____

Pages 19-20 Notes Lesson 5 _____

Pages 21-22 Worksheet Lesson 6 _____

Pages 23-24 Notes Lesson 6 _____

Pages 25-26 Worksheet Lesson 7 _____

Pages 27-28 Notes Lesson 7 _____
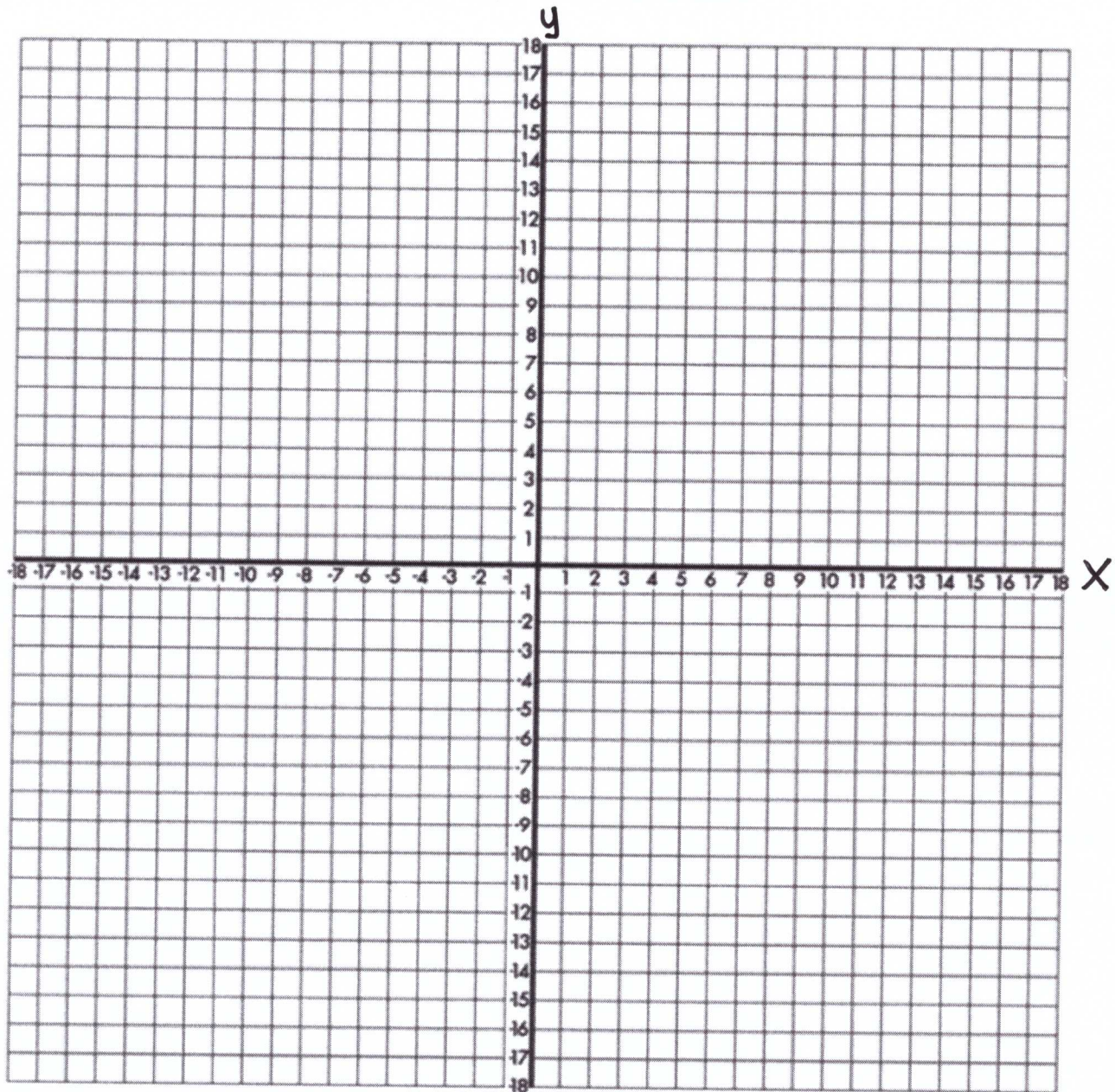
Pages   Project Unit 2 _____

This page

on top.

Name: _____   Mystery Picture   Lesson 2.1

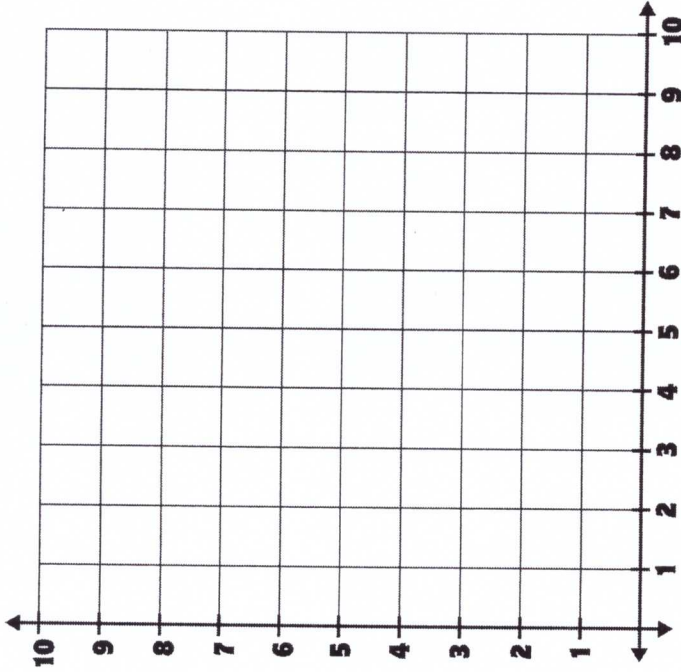Directions: Graph all of the points. Connect the points in the order listed.

Connect the points in order. #1-#22

1. (0, 18)   2. (2, 12)   3. (7, 17)   4. (7,11)   5. (6, 7)   6. (1, 4)

7. (1, -7)   8. (9, 2)   9. (9, -8)   10. (8, -10)   11. (2, -16)   12. (0, -16)

13. (-2, -16)   14. (-8, -10)   15. (-9, -8)   16. (-9, 2)   17. (-1, -7)   18. (-1, 4)

19. (-6, 7)   20. (-7, 11)   21. (-7, 17)   22. (-2, 12) The picture makes a _____

-|-

#24 Graph the points

Tom's Shoe Store is keeping track of how many pairs of shoes they sell over a 5 month period. Graph their results.
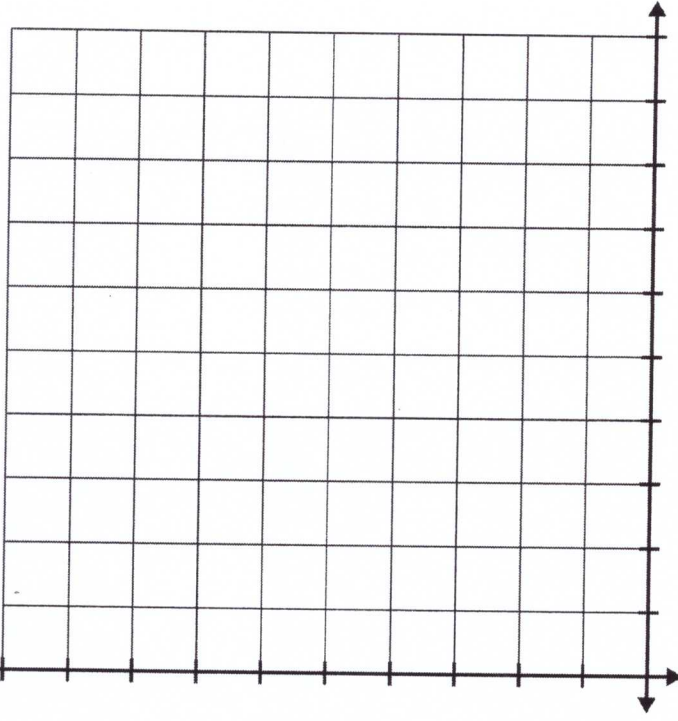
Month	Pairs Sold
1	16
4	12
5	15
7	20
9	30

#23 Graph the points

Marie is saving her money for a new bike. Look at her chart and graph the results.

Month	Amount Saved
1	5
2	5
3	7
4	8
5	10

-2-

Activator and Video

New Vocabulary (1 of 4)

New Vocabulary (2 of 4)

New Vocabulary (3 of 4)

Misconception (4 of 4)

Work Period

Exit Ticket

Extra Graph Paper
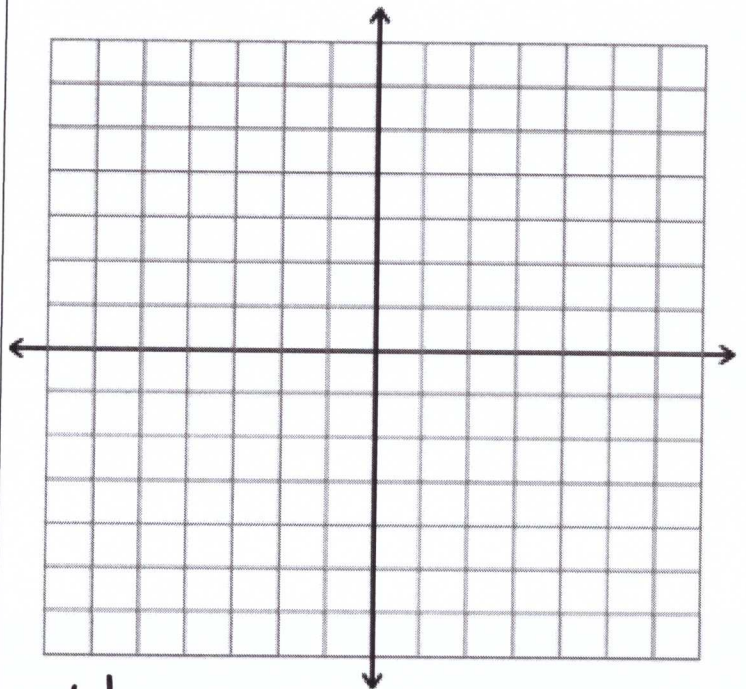
-4-

Name:_____

Scatter Plots   Lesson 2.2

Classify the scatter plots as having a positive, negative, or no correlation.

1.

2.

3.

4.

5.

6.
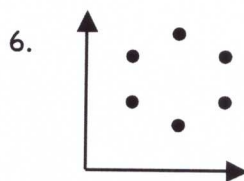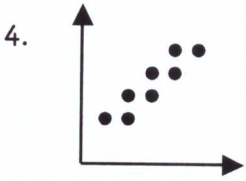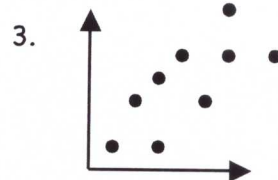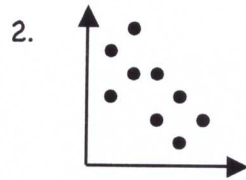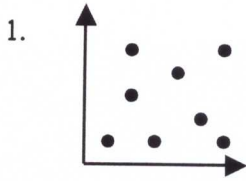
7. A history teacher asked her students how many hours of sleep they had the night before a test. The data below shows the number of hours the student slept and their score on the exam. Plot the data on a scatter plot.

Hours Slept	8	7	7	8	6	5	7	4	9	7
Test Score	83	86	74	88	76	63	90	60	89	81

Test Score

90
85
80
75
70
65
60
0

1 2 3 4 5 6 7 8 9 10 11

# of Hours Slept
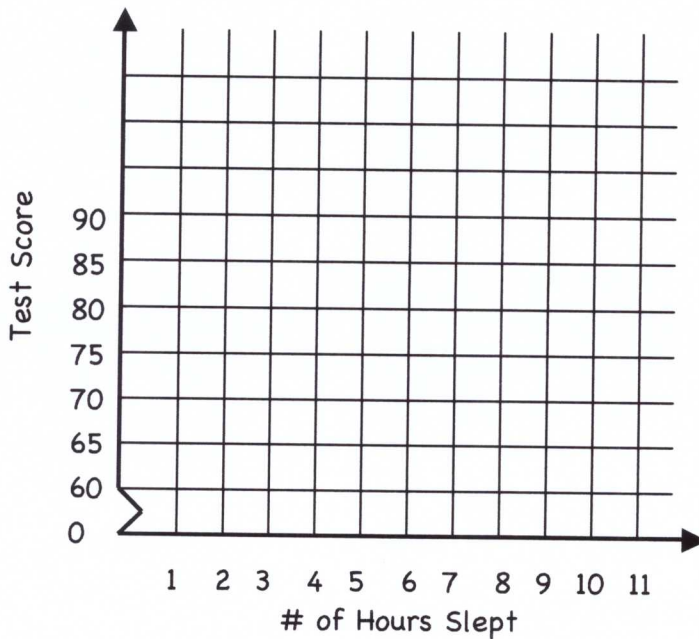
8. Assume that during a three-hour period spent outside, a person recorded the temperature and their water consumption. The experiment was conducted on 7 randomly selected days during the summer. The data is shown in the table below.

Day	Temp-erature (F)	Water Consumption (oz)
1	99	48
2	85	27
3	97	48
4	75	16
5	92	32
6	85	25
7	83	20

Temperature (F): 100, 95, 90, 85, 80, 75, 70

Water Consumption (Oz): 0 16 20 24 28 32 36 40 44 48 52 56
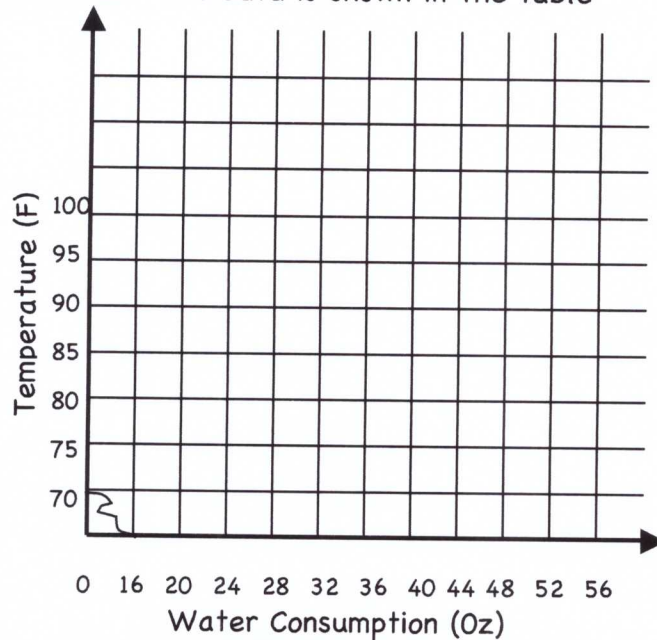
Create a scatter plot with the data. What is the correlation of this scatter plot? (Hint: Do not use the day on the scatter plot.)

+   −   NO

Identify the data sets as having a positive, a negative, or no correlation.

8. The number of hours a person has driven and the number of miles driven _____

9. The number of siblings a student has and the grade they have in math class _____

10. The age of a car and the value of the car _____

11. The number of weeks a CD has been out and the total sales _____

12. The number of years a person went to school and their income _____

13. The number of songs downloaded on your i-pod and the amount of memory available #13 _____

14. The amount of time spent on the computer instant messaging your friends and the number of computers in your house 14. _____

15. The age of a house and the number of people living in the house 15. _____

-6-

Name: _____   Unit # __2__   Lesson # __2__

Activator and Video

New Vocabulary (1 of 4)

New Vocabulary (2 of 4)

New Vocabulary (3 of 4)

Misconception (4 of 4)

Work Period

Exit Ticket

Extra Graph Paper

- 8 -
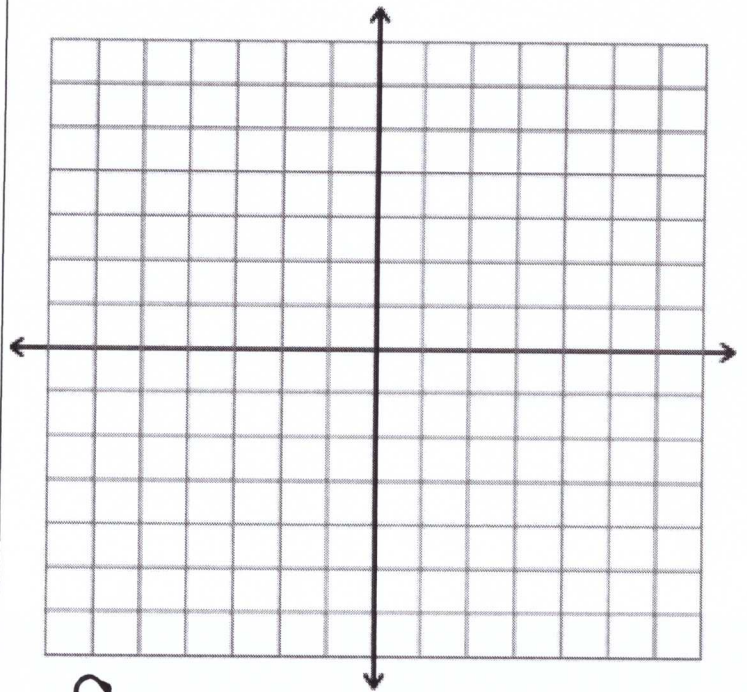
#1 Determine if each scatter plot has a positive, negative or no correlation. Draw a line of best fit.

(A)

(B)

(C)

(D)

(E)

(F)
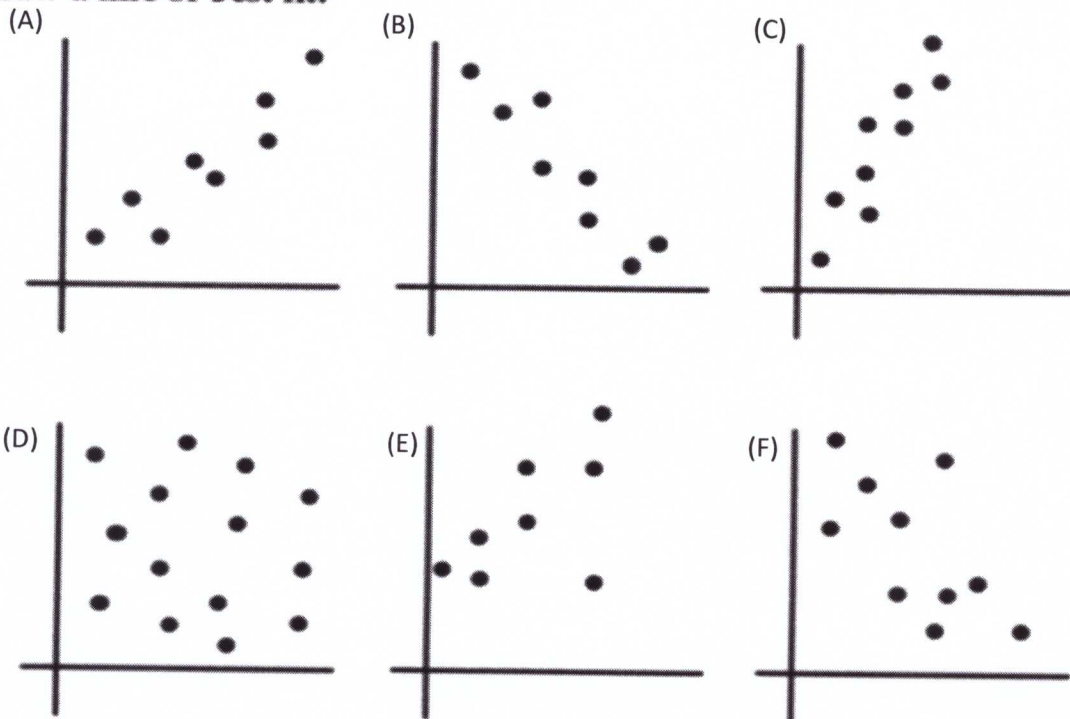
#2. *As the age of a car increases, its value decreases. Which graph is correct?* _____

A   Value

Age

C   Value

Age

B   Value

Age

D   Value

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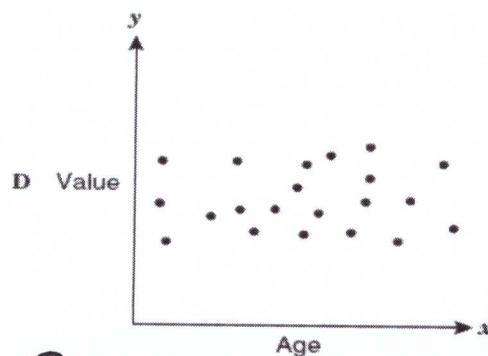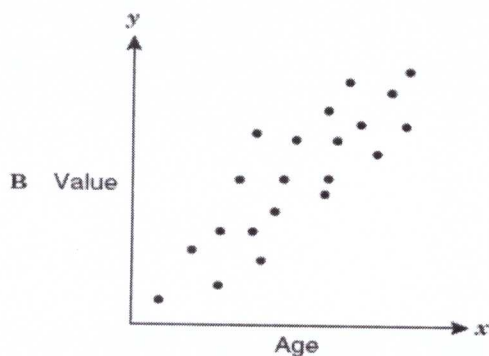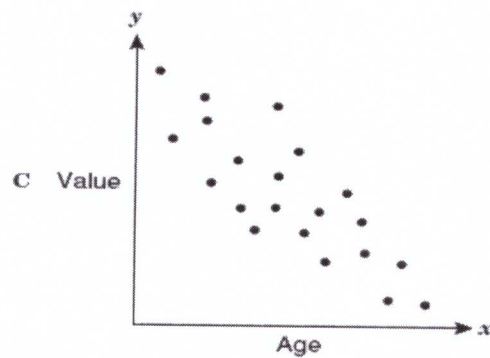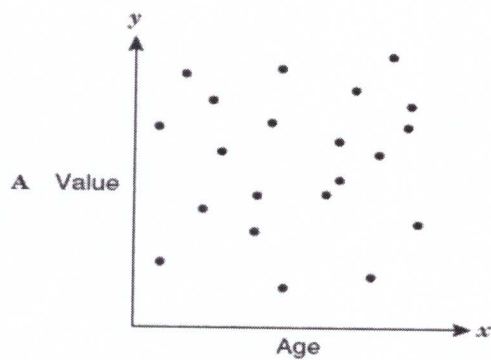
3. The coaches of a group of debate teams answered a survey about hours of debate, team practice and number of team wins. The graph shows the results of this survey.

(A) Write the Line of Best Fit.

Y = MX + B

Y = _____ X + _____

  Increase   Beginning

Debates Won vs. Hours of Practice per Week
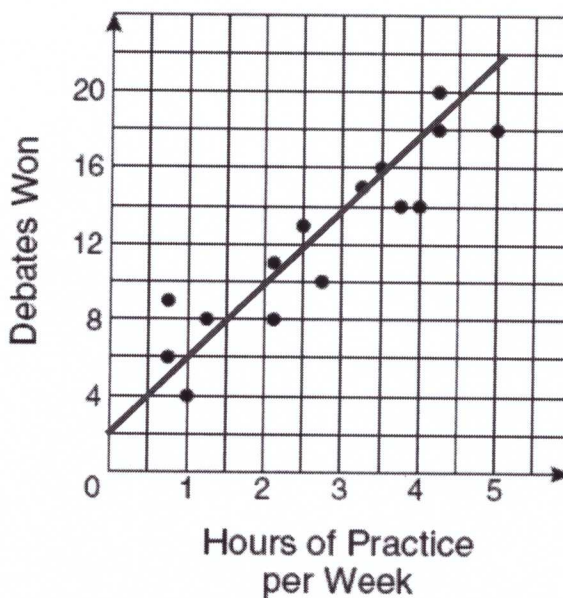
4. A carpenter recorded the amount of money he earned for different jobs and the amount of time he spent on each job. The data are shown in the scatterplot to the right.

(A) Based on the data, which best represents the amount of money the carpenter would earn from a job that took 5 days to complete? _____

(B) Write the Line of Best Fit.

Y = MX + B

Y = _____ X + _____

  Increase   Beginning

Earnings (dollars) vs. Time (days)
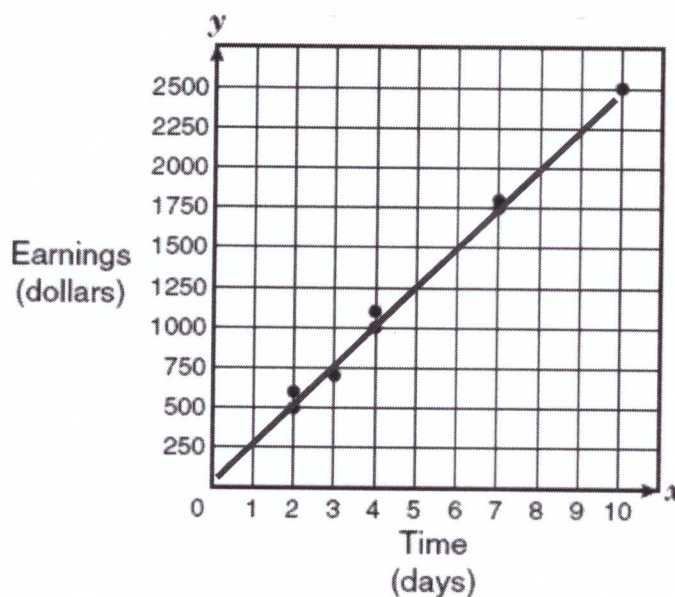
The "Line of Best Fit" is used to make _____.

-10-

Name: _____   Unit # ____2____ Lesson # ____3____

Activator and Video

New Vocabulary (1 of 4)

New Vocabulary (2 of 4)

New Vocabulary (3 of 4)

Misconception (4 of 4)

Work Period

Exit Ticket

Extra Graph Paper

-12-
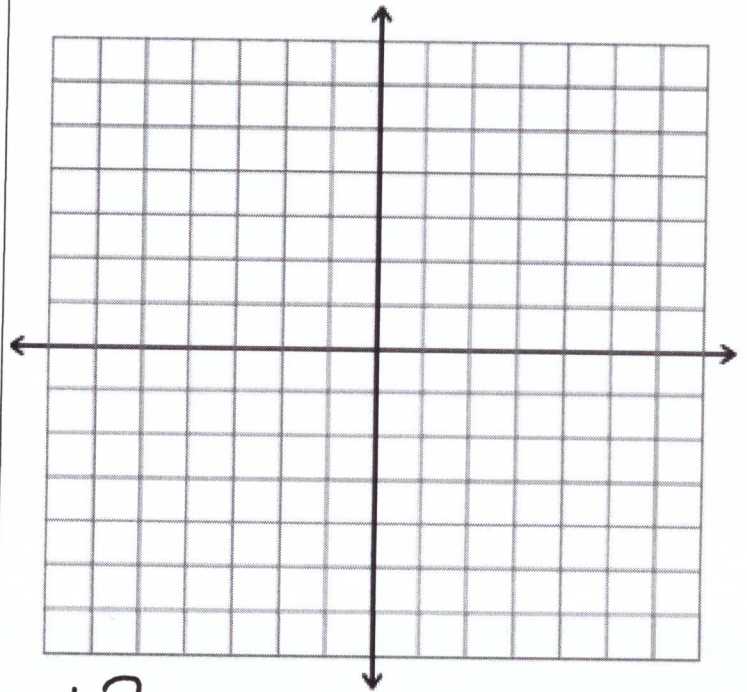
16. The following data table and scatter plot represent the number of negative customer reviews for a given model of cell phone and the total number of that same cell phone model that were sold. Answer the following TRUE or FALSE questions.

Number of consumer negative reviews	Number of cell phones sold (in thousands)
125	163
98	505
50	701
106	355
21	925
69	592
80	700
37	890

Number of cell phones sold (in thousands)

Number of negative consumer reviews
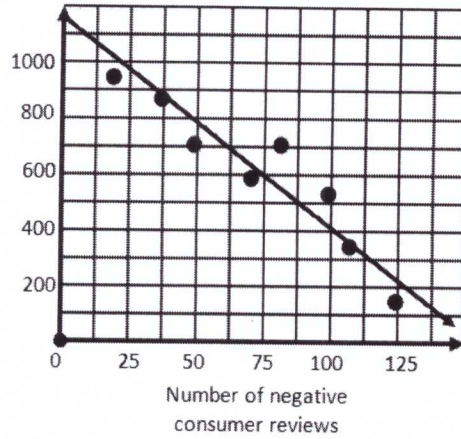
A) Points (37, 890) and (98, 505) are on the line of best fit:_____

B) This scatter plot represents a negative correlation:_____

C) It's reasonable to predict that if there are 75 negative reviews the number of cell phones sold of that same model will be close to 600,000._____

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17. Below is the number of clothes donated to New York City homeless shelters in the given years.

Number of clothes donated (in thousands)

(1996, 47)

(2012, 41)
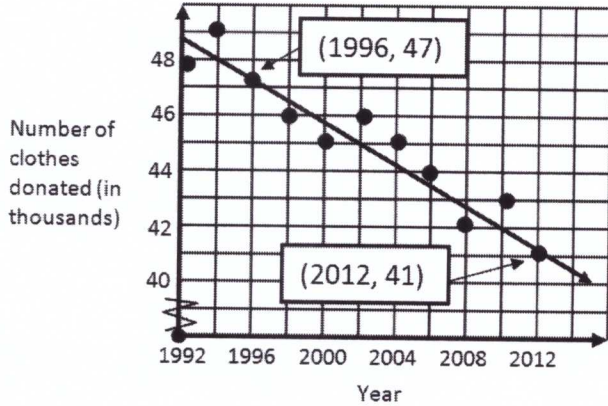
Year

A) Determine the equation for the line of best fit using the given two points on the line of best fit, where x is the number years since 1992 and y is the number of clothes donated in thousands.

B) Using the equation for the line of best fit predict the year in which only 38,000 items of clothing will be donated to the homeless shelters in New York City.

---

18. A keyboarding instructor at a community college collected data comparing a student's age and their typing speed. The equation for the line of best fit is given as $y = -1.4x + 117.8$, where x is the "age in years" and y is the "typing speed.

If you are 25 years of age, what is your typing speed?

A) 153 words per minute
B) 83 words per minute
C) 63 words per minute
D) 102 words per minute.

---

19 At the Happy Paper company the more boxes of paper you order the cheaper the price you have to pay for each box of paper. Below are the prices charged per box of paper to different companies ordering various quantities of paper.

Cost for each box of paper

Number of boxes of paper ordered (in thousands)
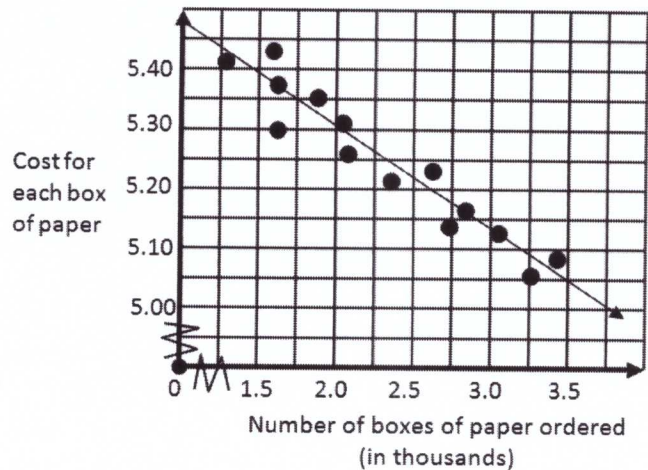
Using the line of best fit, if your company wants to only pay $5.05 for each box of paper, how many boxes of paper should be ordered from Happy Paper company?

13

20. The table below shows the cost of flying from San Francisco to various other cities in the United States. There is a relationship between the distance you are flying and the cost of your plan ticket. The data from the table is represented on the scatter plot.

Distance(miles)	600	374	1,240	725	150	1,100	950	1,500	500
Cost of the plane ticket ($)	143	125	200	180	110	224	180	250	164

A) Draw a line of best fit and pick two good points from the table that are on your line:

B) Determine the equation for the line of best fit.

Cost of plane ticket ($)

Distance (miles)
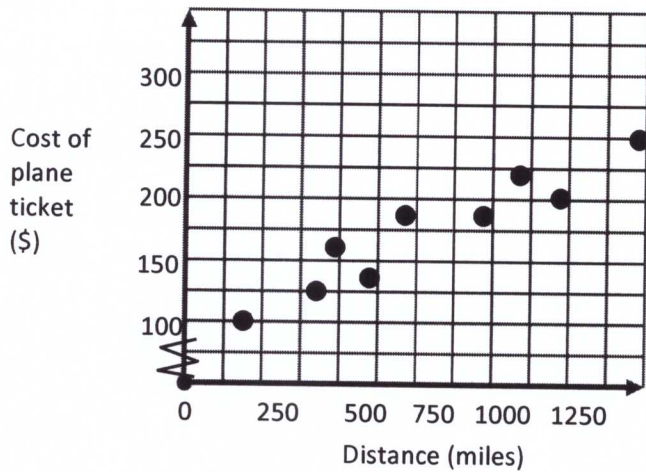
21. The table below shows how much water Nuria drinks and the average temperature for that day. A) Make for the given data table.

Temp (F°)	Water consumed in a day (oz)
99	48
85	27
97	48
80	16
92	32
88	34
94	40
83	20
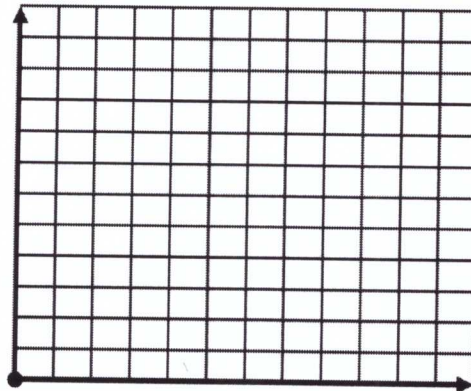
B) What is the correlation? _____

22. Determine the correlation for each statement.

A) The number of people at your party and the number of sodas you have in the refrigerator.

B) The amount your drive to school and the amount you have to pay for gas.

C) The size your dog and the number of times you take it to the vet.

23. The table below represents the number of powerboats registered in the given year.

Year	Powerboat Registrations (thousands)
1996	751
1997	797
1998	806
1999	805
2000	841
2001	903
2002	923

The equation for the line of best for this data is given as y = 27x + 751, where x is the years since 1996, and y is the total powerboat registrations.

Using the given equation for the line of best fit, which is a good prediction for number of powerboat registrations in 2015?

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Name: _____ Unit # __2__ Lesson # __4__

Activator and Video

New Vocabulary (1 of 4)

New Vocabulary (2 of 4)

New Vocabulary (3 of 4)

-15-

Unit # __2__   Lesson # __4__

Misconception (4 of 4)

Work Period

Exit Ticket

Extra Graph Paper

-16-

Correlation vs. Causation

Who is the World's Most Famous French Fictional Law Officer?

Determine whether each statement is **Correlation** or **Causation**. Circle the appropriate letter next to each problem. When you are finished, print the circled letters or blanks in the row of boxes at the bottom of the page top to bottom, left to right. First print those from the column marked "Correlation," Then print those from the column marked "Causation". Your answer will appear.

		Correlation	Causation
1.	Increased sunlight and math test scores.	I	A
2.	Number of storks and birth rate in Russia.	N	R
3.	Exercise and the amount of calories you burn per minute.	A	S
4.	Amount of hours worked increases and income earned.	X	P
5.	Many buffalo were killed and Buffalo almost became extinct.	A	E
6.	Temperature and Crime Rate.	c	R
7.	A basketball player was traveling and the referee called a penalty.	B	T
8.	Sales of ice cream and the incidence of snakebites.	o	y
9.	The alarm was not set and we were late for school.	e	R
10.	Helium rises and a helium balloon floats.	+	—
11.	Eating Bread and High Death Rates.	C	A
12.	I was driving 75 in a 35 mile zone and I got a speeding ticket.	M	L
13.	Amount of hours of sleep per night increases and GPA (grade point average).	O	R
14.	Male Drivers and Car Accidents.	u	A
15.	Yellow cars and a lower incidence of accidents.	S	u
16.	Eating a lot of candy at once and a stomach ache.	T	E
17.	A student with many absences and decreasing grades.	A	B
18.	Wind speed increases and the sail boat moves faster.	K	U

#1   #9   #11   #18

									—									

-17-

26. Which example shows correlation?

A. It rained and the ground is wet.

B. I fell down and my knee is hurt.

C. Temperature increasing and ice cream sales are increasing.

22. Which example shows causation?

A. I did yoga for the first time and I have muscle soreness.

B. Eating sour cream and bike accidents.

C. Using Internet Explorer and murder rate in Florida.

19. Which example shows causation?

A. Being happy and being a better student.

B. An insect ate poison and it died.

C. Years of education and salary at age 35.

23. Which example shows correlation?

A. I left a can of soda in the freezer and it exploded.

B. High winds knocked down the power lines and my house does not have electricity.

C. Temperature and murder rate in Alaska.

20. Which example shows correlation?

A. I put water in the freezer and now I have ice.

B. The alarm clock went off and I woke up.

C. Temperature and the amount of people at the beach.

24. Which example shows causation?

A. Social Media high usage rate and reduced grades in school.

B. My car ran out of gas and now I am stranded on the side of the road.

C. Recess in elementary students and classroom behavior.

21. Which example shows causation?

A. Stress level of students and desire for chocolate.

B. Large consumption of margarine and increased divorce rates.

C. It started raining and the baseball game was delayed.

25. Which example shows correlation?

A. I ate a habanero pepper and my mouth feels like it is on fire.

B. Music lessons and brain development.

C. I stepped on an ant and it died.

Name:_____ Unit # __2__ Lesson # __5__

Activator and Video

New Vocabulary (1 of 4)
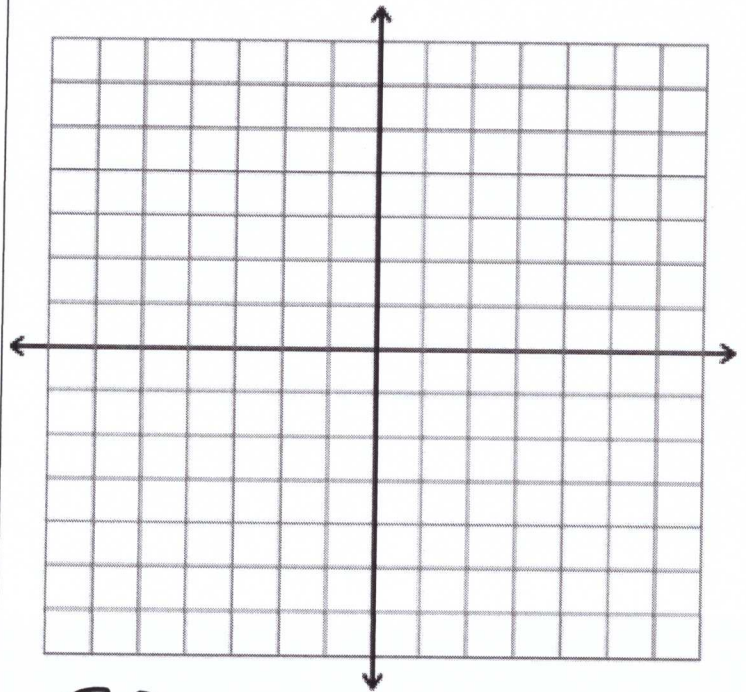
New Vocabulary (2 of 4)

New Vocabulary (3 of 4)

Misconception (4 of 4)

Work Period

- -

Exit Ticket

Extra Graph Paper

Name: _____   Date: _____

Creating Two Way Frequency Tables

Lesson 2.6

1. Billy takes a survey on students' favorite restaurants type of restaurants. He gathers the following information from the 22 students he collected the data from:

- 15 students like both Mexican and Italian restaurants.
- 17 students in total like Mexican restaurants.
- 4 students don't like Mexican or Italian food.

With the data given, fill in the two way frequency table below:

	Likes Italian Food	Doesn't Like Italian Food
Likes Mexican Food		
Doesn't Like Mexican Food		

2. Johnny takes a survey of his class of 24 students. He finds out the following:

- 13 students, in total, like Math.
- 12 students like Math and English.
- 4 students don't like Math but like English.

With the data given, complete the following two way frequency table below:

	Likes English	Does Not Like English
Likes Math		
Does Not Like Math		

3. Sue conducts a survey of her 30 classmates and records the following data:

- 8 of her classmates like bike riding only.
- 6 of her classmates like skateboarding only.
- 10 of her classmates like both bike riding and skateboarding.

With the data given, complete the following two-way frequency table below:

	Likes Skateboarding	Does Not Like Skateboarding
Likes Bike Riding		
Does Not Like Bike Riding		

4. Manny polls his local community of 965 people to see whether they like Candidate A or Candidate B more ahead of the upcoming election. He records the following results:

- 450 people like Candidate A only.
- 500 people like Candidate B only.
- 10 don't like Candidate A or Candidate B.

Use the data he recorded to create a two-way frequency table below:

	Likes Candidate B	Does Not Like Candidate B
Likes Candidate A		
Does Not Like Candidate A		

5. Missy goes to her local ice cream hangout. While she is there she takes a survey of 84 people of what type of ice cream the people like. She collects the following data:

- 45 people like Mint Chip only.
- 17 people like both Mint Chip and Cookie Dough.
- 34 people, in total, like Cookie Dough.

Use the information that Missy recorded to fill out the two-way frequency table below:

	Likes Cookie Dough	Does Not Like Cookie Dough
Likes Mint Chip		
Dois Not Like Mint Chip		

6. Ashley, the running club president at University U, is holding a get together for her fellow runners for an upcoming social she is holding. She is going to get some sandwiches from the local diner and wants to make sure that his fellow 13 runners are happy with the food choices. She records the following information.

- 3 runners like turkey and ham.
- 8 total runners like turkey.
- 4 total runners like ham.

Ashley wants to organize the data in a following two way table. Please help her do that.

	Likes Ham	Does Not Like Ham
Like Turkey		
Does Not Like Turkey		

Activator and Video

New Vocabulary (1 of 4)

New Vocabulary (2 of 4)

New Vocabulary (3 of 4)

Misconception (4 of 4)

Work Period

- -

Exit Ticket

Extra Graph Paper
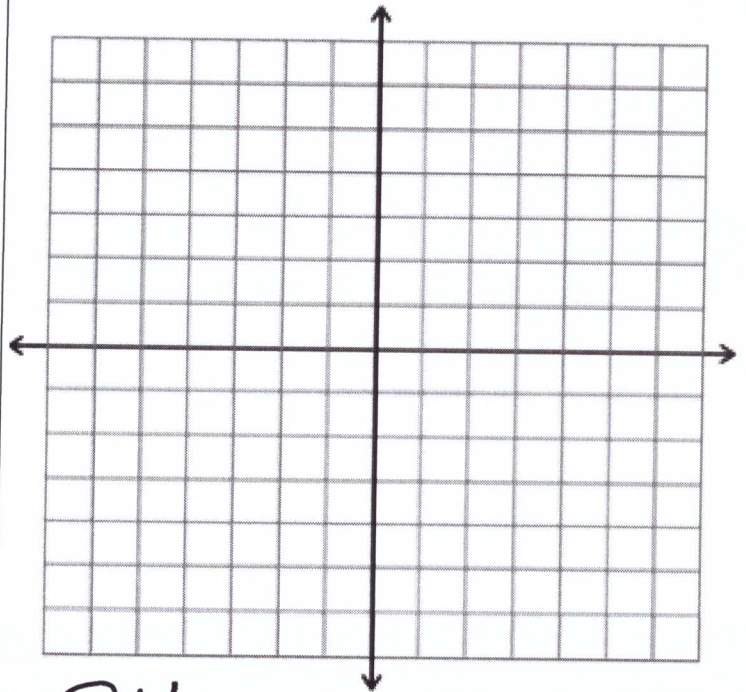
Two-Way Tables and Relative Frequency Practice

Vocabulary:

Categorical (qualitative) data – is data that involves variables that cannot be measured numerically.
   Ex. Gender, sport, color, shape

Quantitative data – is data that involves variables that can be measured numerically.
   Ex. Height, number of cars on a street

Two-way Table – is a table that shows frequencies for two corresponding sets of categorical data.

Frequency – number of times each value occurs in the data set

1. Consider a class of 40 students. There are 15 boys and 25 girls. 8 boys wear glasses and 9 girls wear glasses. The frequencies can be represented neatly using a two-way table.

Number of boys who do not wear glasses is _____

Number of girls who do not wear glasses is _____.

		Glasses		
		Yes	No	Total
Gender	Boys	8	7	15
	Girls	9	16	25
	Total	17	23	40

2. Creating Frequency Tables

The results of a poll of 100 adults about their favorite sport are shown in the two-way table below. Some information is missing in the table.

Favorite Sports					
	Basketball	Baseball	Tennis	Swimming	Total
Men	16	27	5	12	60
Women	2	6	16		
Total					

a) Find the total number of women.

b) Find the total number of women who chose swimming as their favorite sport.

c) Complete the table with the total number of men and women who chose each sport.

-25-

Two-way Frequency Table Worksheet   Lesson 2.7

#3 The two-way frequency table, shown below, displays the data collected from a random group of high school students regarding whether they "liked" snowboards and/or "liked" skateboards. Answer the questions below, regarding this table.

	Likes Skateboards	Do not like Skateboards	Total
Likes Snowboards	15	12	27
Do not like Snowboards	23	18	41
Total	38	30	68

a. How many students participated in the survey?

b. How many students said they like snowboards? What type of frequency is this?

c. How many students like snowboards, but do not like skateboards? What type of frequency is this?

#4, A public opinion survey explored the relationship between age and support for increasing the minimum wage. The results are found in the following two-way frequency table.

	For	Against	No Opinion	TOTAL
Ages 21-40		20	5	50
Ages 41-60	30		15	
Over 60	50	20		75
TOTAL		70	25	200

a. Fill in the missing data to the table above.

b. Create a two-way relative frequency table that summarizes the data from the table.

	For	Against	No Opinion	TOTAL
Ages 21-40				
Ages 41-60				
Over 60				
TOTAL				100%

Use the two-way frequency table and the relative frequency table to answer the following questions:

c. Out of the people that have no opinion, what percentage is over 60 years old?

d. What percentage of people want to increase minimum wage?

e. How many people over 60 are against increasing the minimum wage?

f. For ages 21-60 how many were for increasing the minimum wage?

g. What percent of people over 60 are against or have no opinion?

-26-

Name: _____ Unit # __2__ Lesson # __7__

Activator and Video

New Vocabulary (1 of 4)

New Vocabulary (2 of 4)

New Vocabulary (3 of 4)

Misconception (4 of 4)

Work Period

Exit Ticket

Extra Graph Paper