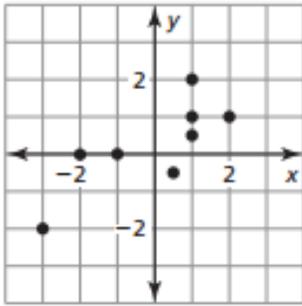


# Station 1

Determine if the following graphs/data tables are a positive, negative, or no correlation.

A)



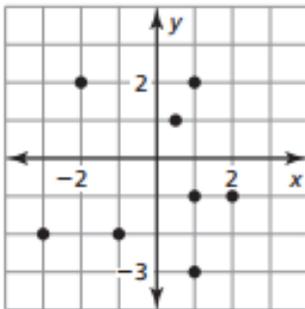
Positive

B)

x	2	3	4	7	8	9
y	4	7	9	15	16	19

Positive

C)



None

D)

Days, x	1	2	3	4	5	6	7	8
Sales (millions), y	18	17	15	13	12	9	6	4

Negative

# Station 2

The table below shows the total number of Girl Scout cookies sold by a Hinsdale Middle School student and the number of weeks. Plot the points on a scatterplot and correctly label the axes. Draw the line of best fit.

x	1	2	3	4	5	6
y	3	5	9	12	17	24

a) Define the Dependent and Independent variables.

Independent = # of weeks  
Dependent = # of boxes sold

c) Pick two points and find the SLOPE of the line of best fit. (1, 3) (3, 9)

$$m = \frac{9-3}{3-1} = \frac{6}{2} = 3$$

e) Determine what the SLOPE and Y-INTERCEPT represent.

For every week, she sells 3 boxes

b) What type of correlation is this?

Positive

d) Write the line of best fit equation in slope – intercept form. (Hint: Write it in Point-Slope form first!)

$$y - 3 = 3(x - 1)$$

$$y - 3 = 3x - 3$$

$$y = 3x$$

f) Predict how many boxes she has sold after 7 weeks.

$$y = 3(7) = 21 \text{ boxes}$$

should be more... Depends what your slope is!

## Station 3

Create your own example of each type of correlation and define the independent and dependent variables.

A) Positive Correlation

B) Negative Correlation

C) No Correlation

answers vary 😊

## Station 4

Your friend says that the data in the table below shows a negative correlation because the dependent variable  $y$  is decreasing. Is your friend correct? Explain why.

x	14	12	10	8	6	4	2
y	4	1	0	-1	-2	-4	-5

My friend is incorrect. Since the x-values are also decreasing, it is a positive correlation! make a scatter plot to double check!!

## Station 5

Describe and correct the error in interpreting the graphing calculator display.

```
LinReg
y=ax+b
a=-4.47
b=23.16
r2=.9989451055
r=-.9994724136
```



An equation of the line of best fit is  $y = 23.16x - 4.47$ .

It should be  $y = -4.47x + 23.16$

# Station 6

The table below shows the daily ticket sales of the movie *Zootopia*. Plot the points on a scatterplot and correctly label the axes. With a rule, draw the line of best fit.

Days, $x$	1	2	3	4	5	6	7	8
Sales (millions), $y$	18	17	15	13	12	9	6	4

b) Define the Dependent and Independent variables.

Independent = Days  
Dependent = Sales

d) Pick two points and find the SLOPE of the line of best fit.  $(2, 17)$   $(4, 13)$

$$m = \frac{13-17}{4-2} = \frac{-4}{2} = -2$$

e) Determine what the SLOPE and Y-INTERCEPT represent.

slope: For every day, the sales drop by 2 million  
y-int: The car started @ 21 million \$

b) What type of correlation is this?

Negative

d) Write the line of best fit equation in slope – intercept form. (Hint: Write it in Point-Slope form first!)

$$y - 17 = -2(x - 2)$$

$$y - 17 = -2x + 4$$

$$y = -2x + 21$$

f) Predict how much the movie sales were by day 9.

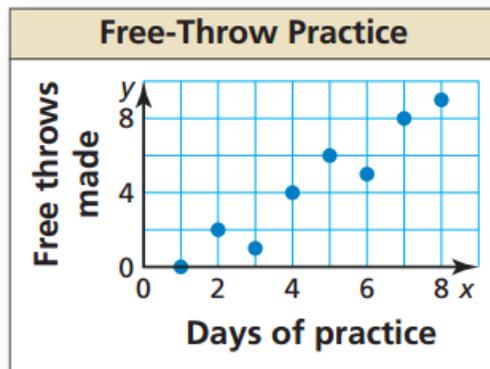
$$y = -2(9) + 21$$

$$y = -18 + 21$$

$$y = 3 \text{ million}$$

# Station 7

The scatterplot below shows the days of practice and the numbers of free throws made during practice.



a) Define the Independent and Dependent variables.

Indep = Days of practice  
Dep = Free throws

c) How many free throws were made on day 5 of practice?

6 free throws

b) What type of correlation is this?

Positive

d) On which day were 5 free throws made?

Day 6

# Station 8

\*Need Graphing Calculator\*

The table below shows the lengths and costs of sailboats.

Length (feet), $x$	Cost (thousands of dollars), $y$
27	94
18	56
25	58
32	123
18	60
26	87
36	145

- a) Use a graphing calculator to find an equation of the line of best fit.

$$y = 4.9x - 38$$

- b) What does the slope represent? c) What does the y-intercept represent?

For every foot, the sailboat cost \$4.9K base cost

- c) Approximate the cost of a sailboat that is 20 feet long.

\$60,000

- d) Predict the length of a sailboat that costs \$147,000.

about 38 ft.

# Station 9

\*Need Graphing Calculator\*

Mrs. Berenson decides she needs a bigger car for her road trip to Florida this spring break. The table below shows the mileages (in thousands of miles) and the selling prices (in thousands of dollars) of several used cars of the same year and model.

Mileage, $x$	22	14	18	30	8	24
Price, $y$	16	17	17	14	18	15

- a) Using your graphing calculator, find an equation of the line of best fit.

$$y = -0.2x + 20$$

- b) Interpret the meaning of the slope.

For every mile, the price decreases 0.2

- c) Interpret the meaning of the y-intercept.

at 0 miles, the cost of the car is \$20,000

- d) Approximate the mileage of a car that costs \$13,000.

22,500 miles

- e) Predict the price of a car with 6000 miles.

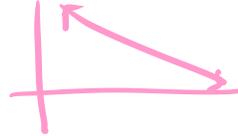
\$18,800

# Station 10

Determine what type of correlation for each relationship. Then identify the independent and dependent variables.

- a) The amount of time spent talking on a cell phone and the remaining battery life.

Negative



- b) The number of hats you own and the size of your head.

No correlation

- c) The temperature outside and the amount of hot chocolate sold.

Independent      Dependent

Negative

- d) The time spent babysitting and the amount of money earned.

Independent      Dependent

Positive