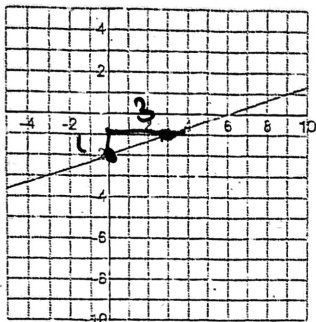


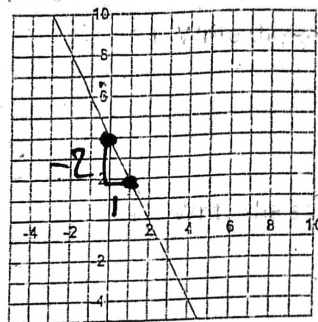
1. Write an equation in slope-intercept form for the following graphs.

(a)



(a)  $y = \frac{1}{4}x - 2$

(b)



(b)  $y = -2x + 4$

2. Write an equation in slope-intercept form for the line that passes through the given pair of points.

(5, 1), (3, 2)

$y = 1.5x - 6.5$

3. Your assignment is to make a graph comparing the amount of time you spend studying a week and your test grades.

(a) What is the independent variable?

time studying

(b) What is the dependent variable?

test grades

4. The Pizza Palace offers a choice of 4 specials to Leesville students.

Special	1	2	3	4
Number of Slices	8	12	18	24
Total Cost	4.25	6.70	11.90	15.60

(a) What are the independent and dependent variables?

Ind: # of Slices

Dep: Total Cost

(b) Find a linear model for this data. Round to the nearest hundredth.

$y = .73x - 1.67$

(c) Write a sentence giving the real-world meaning of the slope.

.73 cost for every 1 slice | # "y" for every 1 "x"

(d) Write a sentence giving the real-world meaning of the y-intercept.

-1.67 is cost when the # of slices is 0.

(e) If Pizza Palace offers a 36-slice special, what should they charge based on your equation in part b?

$y = .73(36) - 1.67 = 24.61$  - Extrapolation

(f) If you have only \$7.10, about how many slices could you buy? (Round down.)

$7.10 = .73x - 1.67$

$x \approx 12.01$

$\approx 12$  slices

Extrapolate - making a prediction using a value outside the scope of given data

The Chicken Shack™ offers high quality meals at an affordable price. A sample menu is below.

Feeds	1	2	3	4
Price	\$10.25	\$16.45	\$21.75	26.25

1. State the independent and dependent variables.

I: Feeds  
D: Price

2. Find the equation of the regression line.

$$y = 5.33x + 5.35$$

3. Interpret the slope for the situation.

5.33 is the price for every 1 person fed  
y x

4. Interpret the meaning of the y-intercept for the situation.

5.35 is the price when the # of people fed is 0  
y x

5. If The Chicken Shack™ offered a meal to feed 8 people, determine the cost using your equation.

$$5.33(8) + 5.35 = 47.99$$

6. How many people could be fed for \$70 at The Chicken Shack™ (round down)?

$$70 = 5.33x + 5.35$$

$$x = 12.01$$

≈ 12 people

Name \_\_\_\_\_ Date \_\_\_\_\_

AFM - Wave

afford

Wave Data

Number of Students	6	7	11	12	14	16	17	20	22	26
Time (seconds)	2.07	3.03	2.09	3.40	3.51	4.53	3.94	4.56	5.38	6.25

1. Determine which variable is independent and which is dependent. Enter data into the lists of your calculator.

I: # of Students D: time

2. Look at a scatter plot of the data.

3. Use LinReg to determine the least squares line that fits this data. Write the equation in the function list.

$$y = .20x + .91$$

4. Superimpose the line over the data. Do you think this model fits the data?

yes

$$r = .936$$

reasonably good

5. Discuss the meaning of the  $y$ -intercept and the slope of the line.

6. Determine the residuals for the data set. What is the residual associated with 20 students? What does this number mean?

7. Is your model a good fit? Discuss why or why not.

8. Predict the time it will take all 550 students to do the wave.