

1. A pay as you go phone plan gives you 100 MB of data. You use 5 MB of data each day

a.) Fill out the table to reflect the amount of data remaining at the end of each day.

Day	0	1	2	3	4	5
Remaining Data						

b.) What is the rate of change? Make sure you include the units of measure.

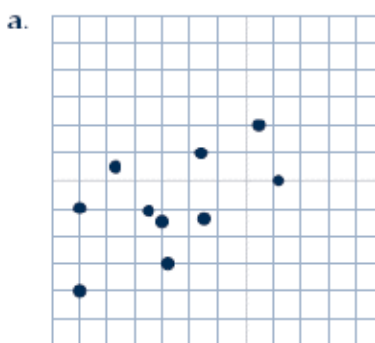
c.) Write a “y =” rule for this relationship.

d) Calculate the amount of data after 20 days. Show your work.

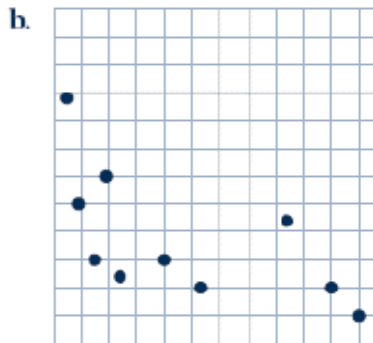
e) How many days until you have only 10 MB of data remaining? Show your work

2. Match the correct approximate correlation to each plot.

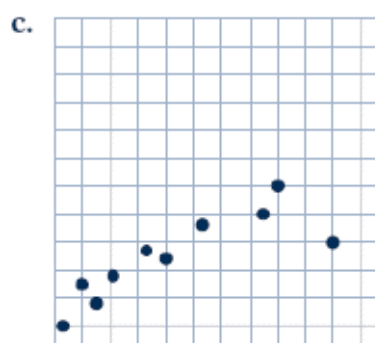
- I.  $r = 0.20$    II.  $r = -0.60$    III.  $r = 0.80$    IV.  $r = 0.50$    V.  $r = -2.0$



$r$ : \_\_\_\_\_



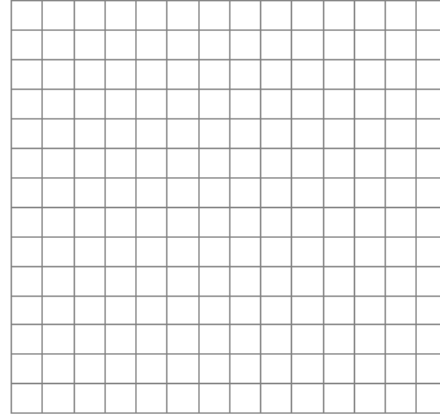
$r$ : \_\_\_\_\_



$r$ : \_\_\_\_\_

3. Car dealers across North America use the “Blue Book” to help them determine the value of used cars that customers trade in when purchasing new vehicles. The book lists on a monthly basis the amount paid at recent used-car auctions and indicates *the trade-in values according to condition and optional features*. A study was completed to determine whether the odometer reading would serve as a useful predictor of trade-in value. Five-year-old cars of the same make, model, condition, and options have been randomly selected. The trade-in value and mileage are shown below.

Odometer Reading	Trade-in Value (\$)
58,000	3800
93,100	2400
72,000	3100
52,000	4000
67,700	3200
88,100	2700
62,500	3900
95,100	2500
83,100	2600
43,400	4300
39,000	5500



- a. **Plot** the data on the graph given and draw the line of best fit.
- b. **Find the line of best fit** for the data using the point slope equation ( $y - y_1 = m(x - x_1)$ ). Then convert that into slope intercept form ( $y = mx + b$ )
- c. **Interpret** the **slope and y-intercept** in the context of the situation given above.
- d. Using your answer from part b, Determine the trade in value for a car with an odometer reading of **100 thousand miles**.
- e. Using your answer from part b, find the odometer reading for a car with a trade in value of \$5000.

4. Car dealers across North America use the “Blue Book” to help them determine the value of used cars that customers trade in when purchasing new vehicles. The book lists on a monthly basis the amount paid at recent used-car auctions and indicates *the trade-in values according to condition and optional features*. A study was completed to determine whether the odometer reading would serve as a useful predictor of trade-in value. Five-year-old cars of the same make, model, condition, and options have been randomly selected. The trade-in value and mileage are shown below.

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39,000	5500

a. Use your **calculator** to find the regression equation for the data. **Write down the equation and the viewing window**. Round all decimals to the nearest hundredth.

Equation: \_\_\_\_\_ Viewing Window: \_\_\_\_\_

b. **What does the correlation** tell you about the relationship between odometer reading and trade in value. Make sure you include **direction, and strength**.

c. What is the slope of the regression line? \_\_\_\_\_ Explain the meaning of the slope in terms of odometer and trade in value.

\_\_\_\_\_

b. Use your regression line and your calculator to help you determine what the trade in value would be for a car with an odometer reading of 60000 miles.

5. Determine if the table represents a linear function. If the table is linear give the equation.

x	1	3	5	7	9
y	-5	-8	-11	-14	-17

x	0	3	5	7	10
y	11	9	8	5	6

6. Determine if the equation represents a linear function. If the equation is linear give the slope and y-intercept

c)  $y = 5x - 8$

d)  $y = x^5 + 7$

7. Determine if the graph represents a linear function. If the graph is linear give the equation.

