

Name: _____

Mrs. Roubos

Date _____

8R Period _____

Scatter Plots & Line of Best Fit Day II

- 1) The accompanying diagram shows the number of cricket chirps per minute recorded at various Fahrenheit temperatures.

Temperature (°F)	Number of Cricket Chirps Per Minute
52	50
56	78
62	90
72	115

Determine a line of best fit for this data.

- 2) The chart below shows the number of minutes studies and the grade received on a test.

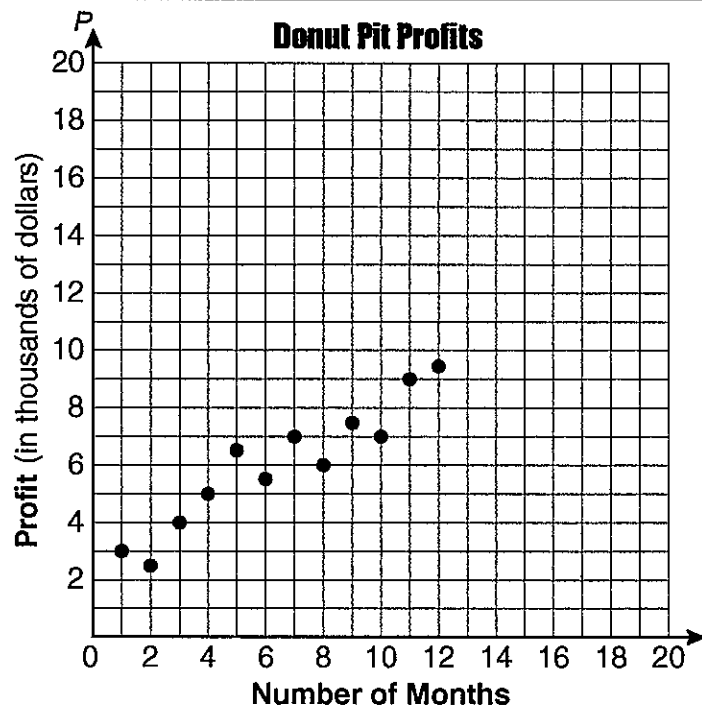
Minutes Studied (x)	Test Grade (y)
15	50
40	67
45	75
60	75
70	73
75	89

Determine a line of best fit for this data.

Scatter Plots & Line of best fit

- 3) Megan and Bryce opened a new store called the *Donut Pit*. Their goal is to reach a profit of \$20,000 in their 18th month of business. The table and scatter plot below represent the profit, P , in thousands of dollars, that they made during the first 12 months.

t (months)	1	2	3	4	5	6	7	8	9	10	11	12
P (profit, in thousands of dollars)	3.0	2.5	4.0	5.0	6.5	5.5	7.0	6.0	7.5	7.0	9.0	9.5

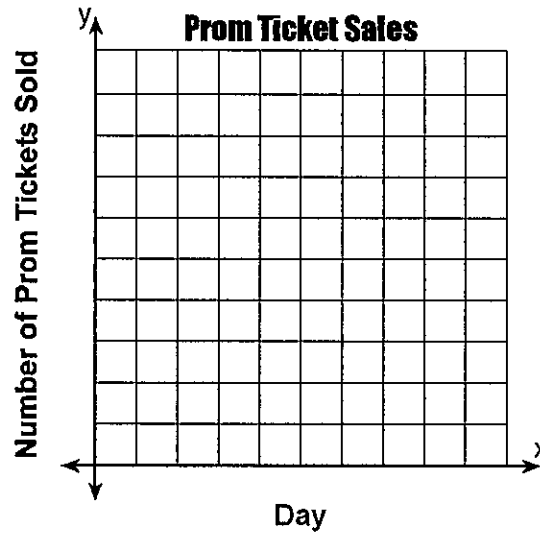


- (a) Draw a reasonable line of best fit.
- (b) Using the line of best fit, predict whether Megan and Bryce will reach their goal in the 18th month of their business. [Justify your answer.]

- 4) The table below shows the number of prom tickets sold over a ten-day period.

Day (x)	1	2	5	7	10
Number of Prom Tickets Sold (y)	30	35	55	60	70

Plot these data points on the coordinate grid below. Use a consistent and appropriate scale. Draw a reasonable line of best fit and write its equation.



Notes

Equation for the line of best fit (Trend line)

$$y = mx + b$$

$m = \text{slope}$

$b = y\text{-intercept}$

$$m = \frac{y_2 - y_1}{x_2 - x_1}$$

★ when calculating the slope, use the smallest + largest x -value

★ slope: Round to the nearest hundredth

★ make sure to start the line at the y -intercept + write the equation on the line