

14.X – QUADRATIC REGRESSION PLEASE COMPLETE AND TURN IN ALL FOUR PAGES!

Online resource: www.algebralab.org >>> Word Prob >>> Quadratics Eqations >>>
 Word Problems: Quadratic Regression

Example 1:

Cedar point is testing the price-profit of their cold soda in vending machines. Here is the price- profit data taking into account the costs of the soda, delivery and all other expenses for 1 week.

Price	\$1.00/soda	\$2.50	\$4.00	\$5.50	\$7.00
Profit	\$1000	\$2000	\$10,000	\$2500	\$0

In words, describe why this pattern seems to be happening

Using your calculator, can find the standard form of the quadratic $y =$ _____
 Round to the nearest tenth.

Make an appropriate graph below. Use you table to label a dot for each mark along the x-axis. Label x and y-axis appropriately. Draw a rough sketch of the points in the table AND the line.



Using the calculator, find the price (to the nearest penny) you should charge and identify the amount of profit made.

PRICE _____ PROFIT _____

Using the calculator, find the zero (break even points) for the regression line

ZERO (left) _____ ZERO (left) _____

Based on the r-value and the graph, how do you feel about the regression line?

Example 2:

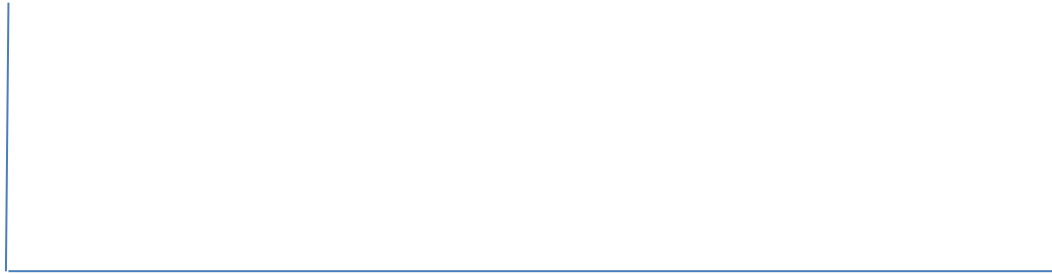
According to CDC data (www.cdc.gov) here are U.S. Measles cases per year for a select set of years that could produce a quadratic graph

Year	2011	2012	2013	2014
Cases (est.)	205	45	195	625

In words, describe what seems to be happening

Using your calculator, can find the standard form of the quadratic $y = \underline{\hspace{2cm}}$
Round to the nearest tenth. Treat “2010” as “0”

Make an appropriate graph below. Use you table to label a dot for each mark along the x-axis. Label x and y-axis appropriately. Draw a rough sketch of the points in the table AND the line.



Using the calculator, find the lowest number of Measles cases and the approximate year.

CASES YEAR

Using the calculator, find the projected number of measles cases in 2015.

2015

Based on the r-value and the graph, how do you feel about the regression line?

Create a negative critique for using the quadratic regression for this data.

Homework: Problem 1:

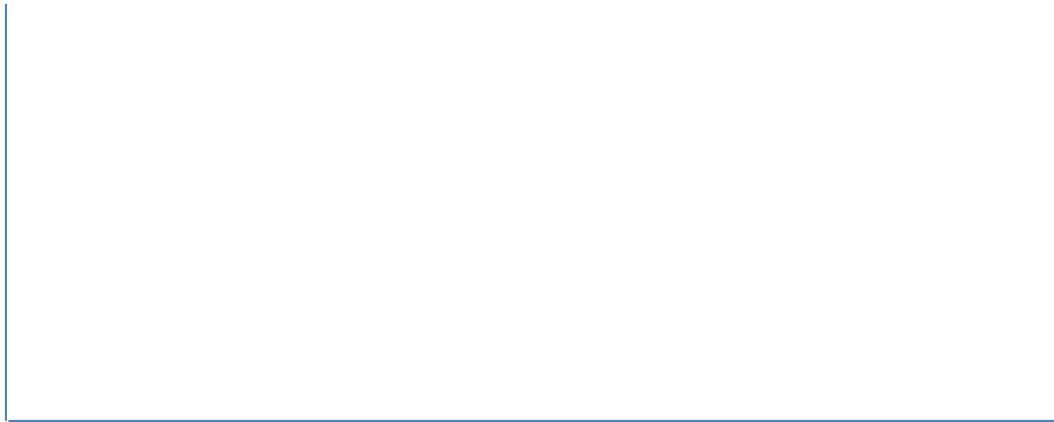
Wings Stadium is testing the price-profit of their concert tickets. Here is the price- profit data taking into account the costs of the talent, support staff and all other expenses for 5 shows.

Ticket Price	\$25	\$35	\$50	\$60	\$75
Profit	\$15,000	\$25,000	\$75,000	\$60,000	\$30,000

In words, describe why this pattern seems to be happening

Using your calculator, can find the standard form of the quadratic $y =$ _____
Round to the nearest tenth.

Make an appropriate graph below. Use you table to label a dot for each mark along the x-axis. Label x and y-axis appropriately. Draw a rough sketch of the points in the table AND the line.



Using the calculator, find the price (to the nearest penny) you should charge and identify the amount of profit made.

PRICE _____ PROFIT _____

Using the calculator, find the zero (break even points) for the regression line

ZERO (left) _____ ZERO (left) _____

Based on the r-value and the graph, how do you feel about the regression line?
