Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Table #: \_\_\_\_\_\_ Period: \_\_\_\_\_\_\_ Date: \_\_\_\_\_\_

**9.2A Lines of Fit\_Classwork**

*Objective: Draw a line of fit on a scatter plot. Use the equation of the fit line to solve problems. CC.SS.8.SP.1/2*

*HW: 9.2 worksheet*

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| A LINE OF FIT is a line drawn on a scatter plot close to most of the data points. It can be used to estimate data on a graph. |
| **TIPS FOR DRAWING A LINE OF FIT:*** The line should go through the middle of the data so that about half of the data points are above the line and half are below
* Draw the line through AT LEAST TWO POINTS and use these two points to find the equation of the line of fit.
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| The scatterplots below shows the relationship between games played and tickets won.Which of the graphs below represents the line of best fit? EXPLAIN WHY. \_\_\_\_\_\_ IS THE BEST LINE OF FIT BECAUSE \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_   |
| 1. **EXAMPLE**
2. Read the tips above and then draw a line of fit.
3. Pick two points that go through your line of fit and derive the equation of the line.

EQUATION: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_1. Estimate the value of y when x = 9.

WHEN x = 9, y = \_\_\_\_\_\_\_\_\_\_\_\_  <https://www.youtube.com/watch?v=LPFrV-QhQE4&spfreload=10> |
| 1. The following scatterplot shows data for employees at a small company.
2. Use the line of best fit to estimate how much a 40 year old person could expect to earn at this company. ***Show how you got your answer on the graph.***
3. Use the line of best fit to predict how old one would need to be earn $65,000 per year. ***Show how you got your answer on the graph.***

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| 1. An animal shelter opens in December. The table shows the number of cats adopted from the shelter each month from January to September.

 1. Make a scatter plot of the data and draw a line of fit. (lable the axes and include a title)
2. Write an equation of the line of fit. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. Interpret the slope and the y-intercept of the line of fit.

slope: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_y-intercept: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_1. Predit how many cats will be adopted in October. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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**9.2A Homework (Line of Best Fit)**

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| 1. The graph shows the weights of dogs and the time it took the same dogs to complete an agility course in seconds. Which shows the line of best fit for the data? EXPLAIN WHY.

\_\_\_\_\_\_ IS THE BEST LINE OF FIT BECAUSE \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_    |
| 1. The scatterplot shows the average yearly consumption of bottled water by people in the U.S. starting in 1990. Using the line of best fit, predict the average consumption of bottled water in the year 2000. EXPLAIN WHY YOU SELECTED YOUR ANSWER. SHOW IT ON THE GRAPH.

 I picked \_\_\_\_\_\_\_ gallons because \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 1. Chang wants to know if he is improving his skill on the cello. He created a scatterplot and drew a line of best fit. If he uses (2, 8) and (5, 1.5) from his line, which equation would best represent the line of fit? (HINT: use slope in decimal form). (HINT: Use slope in decimal form. Round your answer to the nearest tenth)

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| 1. The scatterplot shows the average price of a major-league baseball ticket from 1997 to 2006.
2. Use the points (2001, 17.60) and (2002, 18.85) to write the slope-intercept form equation for the line of fit shown in the scatterplot.
3. Use your equation to tell the price of a ticket in 2009.

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| 1. The table shows the weight *y* of *x* bananas.
2. Make a scatterplot of the data. Label the axes and give the graph a title.
3. Make a line of best fit.
4. Write an equation for your line of best fit.
5. Use the equation to estimate the weight of 10 bananas.

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Name(s): \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_



EXPLAIN why you draw that line of best fit.

Name(s): \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_



EXPLAIN why you draw that line of best fit.

 



 a. Make a scatter plot of the data and draw a line of fit.

 (DRAW A LINE THAT IS CLOSE TO THE DATA POINTS. TRY TO HAVE AS MANY POINTS ABOVE

 THE LINE AS BELOW IT.)

  

 b. Write an equation of the line of fit. (PICK TWO POINTS ON THE LINE OF BEST FIT YOU DREW.

 FIND THE SLOPE BETWEEN THE TWO POINTS. USE IT AND THE Y-INTERCEPT TO WRITE THE

 EQUATION)

 c. Interpret the slope and y-intercept of the line of fit. (Write sentences to describe what the slope

 and y-intercept mean in the context of the word problem)

d. Predict the depth in month 9.