

Name \_\_\_\_\_

Date \_\_\_\_\_ Pd. \_\_\_\_\_

**Notes: Lines of Best Fit Day 3**

**Interpret Points on a Scatter Plot** A \_\_\_\_\_ is a graph in which two sets of data are plotted as ordered pairs in a coordinate plane. If  $y$  increases as  $x$  increases, there is a \_\_\_\_\_ between  $x$  and  $y$ . If  $y$  decreases as  $x$  increases, there is a \_\_\_\_\_ between  $x$  and  $y$ . If  $x$  and  $y$  are not related, there is \_\_\_\_\_

Determine the line of best fit for the following data:

<u>City</u>	<u>Latitude</u>	<u>January Temperature</u>
Washington, DC	38.95°	34.9° F
Birmingham, AL	33.57°	42.6° F
Miami, FL	25.83°	68.1° F
San Francisco, CA	37.75°	49.4° F
Des Moines, IA	41.53°	20.4° F
Seattle, WA	47.74°	40.9° F
Caribou, ME	46.87°	9.5° F
Raleigh, NC	35.87°	39.7° F
Detroit, MI	42.42°	24.5° F
Honolulu, HI	21.35°	73.0° F

Write the equation of your line: \_\_\_\_\_

Does your line of best fit match your neighbors? Why?

What is the meaning of the slope of your line? The  $y$ -intercept?

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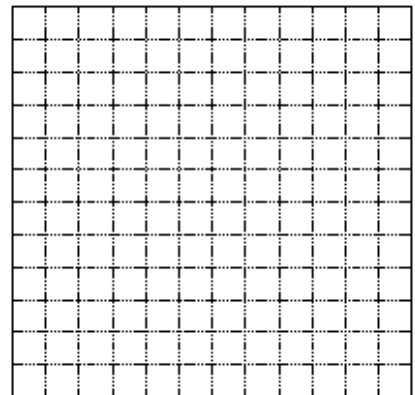
**Exit Card: Lines of Best Fit Day 3****ECR**

The full-grown height of a tomato plant and the number of tomatoes it has on it were recorded for six tomato plants.

Height (Inches)	Number of Tomatoes
26	12
33	18
20	9
40	22
32	19
28	15

Complete the following:

- Write the equation for a line of best fit. Use mathematics to explain how you determined your line of best fit. Use words, symbols, or both in your explanation. (If you solve the problem graphically, use the grid to add to your written response).
- Explain what the slope of your equation represents.
- Use your best-fit line to predict the number of tomatoes that will come from a tomato plant whose height is 44 inches.



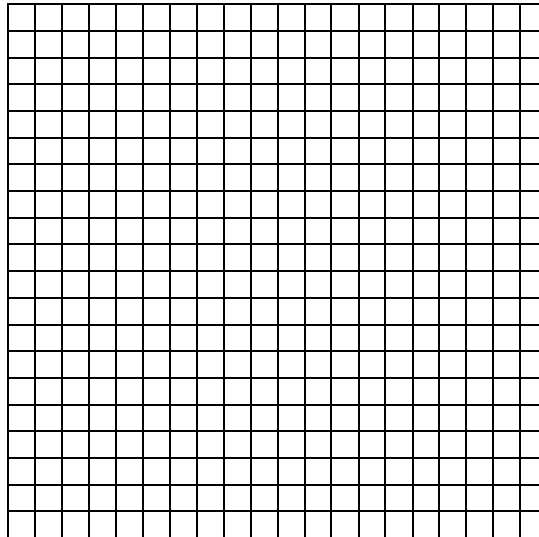
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**Homework: Page 304 (29 – 32, 39)**

<b>Florida's Burned Acreage and Spring Rainfall</b>					
<b>Year</b>	<b>Rainfall (inches)</b>	<b>Acres (thousands)</b>	<b>Year</b>	<b>Rainfall (inches)</b>	<b>Acres (thousands)</b>
1988	17.5	194	1994	18.1	180
1989	12.0	645	1995	16.3	46
1990	14.0	250	1996	20.4	94
1991	30.1	87	1997	18.5	146
1992	16.0	83	1998	22.2	507
1993	19.6	80	1999	12.7	340

29. Draw a scatter plot with rainfall on the  $x$ -axis and acres on the  $y$ -axis.



30. Draw a line of fit for the data.
31. Write the slope-intercept form of an equation for the line of fit.

32. In 2000, there was only 8.25 inches of spring rainfall. Estimate the number of acres burned by wildfire in 2000.

39. Choose the equation for the line that best fits the data in the table at the right.

A  $y = x + 4$

B  $y = 2x + 3$

C  $y = 7$

D  $y = 4x - 5$

$x$	$y$
1	5
2	7
3	7
4	11