

Notes 4.2
Writing a Linear Equation to Fit Data

- 1) The following table shows the saturated fat (in grams) and total fat content (in grams) of hamburgers at some fast food restaurants.

Burger	Saturated Fat (g)	Total Fat (g)
Wendy's Single with Everything	7	20
Burger King Whopper Jr.	8	24
McDonald's Big Mac	10	28
Wendy's Big Bacon Classic	12	30
Hardee's The Works	12	30
McDonald's Arch Deluxe w/ Bacon	12	34
BK Dbl Cheeseburger w/ Bacon	18	39
In-n-Out Double Cheeseburger	14	40
Burger King Big King	18	43
Burger King Whopper w/ Cheese	16	46

- a. Make a scatter-plot of the data on graph paper. Put the saturated fat on the x -axis and the total fat on the y -axis. Make sure that you use appropriate scales!
- b. Draw a line of fit...a line that shows the general direction of the data. Write the coordinates of any two points *on the line* (they don't have to be the points that are in the table)
- c. Find the slope of the line using the two points from part b.
- d. Estimate the y -intercept of the line.
- e. Write the equation of the line that you have drawn in $y = a + bx$ form.
- f. Use your equation in part e to estimate the total fat content of a Jack in the Box Bacon Ultimate Cheeseburger which has 29 grams of saturated fat.
- g. Use your equation in part e to estimate the saturated fat content of a Wendy's Jr. Hamburger that has 9 total grams of fat.
- h. Rewrite your equation from part e in this form: $y = mx + b$, where m is the slope and b is the y -intercept. The equation will look slightly different, but it means the same thing as your equation from e. This form is what mathematicians call "slope-intercept form".
- i. Staple your graph to this paper. On the back of this paper, do questions 1, 2, and 3 on page 229. You'll turn it all in on Monday.