Math 126, survey of mathematical methods assignment

Are You Sure It’s Fat Free? Stephon Staley Math 126, Survey of Mathematical Methods Anne Gloag September 8, 2011 In the text of “ mathematics in our world” on page 236, it sparks the interest of readers because it challenges the question “ is it really fat free? ” It goes on to give an example of a can meat that states that is 97% fat free. The text used the value of the total volume of the item, calories per serving, grams of fat per serving and a multiplier of 100%. The total volume was 10 ounces; the text then converted ounces to grams. 1 ounce is equal to 29 grams; making 10×29= 290 grams.

Then the book divided 290 by the 9 grams of fat and then multiplied the answer by 100% 9/290 x 100% = 3. 1% Once the 3. 1% is subtracted by 100% it shows that the content of the canned product is 97% fat free according to the manufactures’ mathematics. The text then goes on to state the real math behind it. Each gram of fat was converted into calorie, for one gram of fat it equals 9 calories. 9 grams of fat x 9 calories each equals 81 calories. 81 were then divided by the number of calories on the label 240. 81/240 was multiplied by 100%= 33. 75% 81/240 x 100= 33. 75 This suggests that the 10oz can is 66. 5% fat free as oppose to 97% as the label claims. I found this to be misleading in an away where the book didn’t not state what the label said where the calories from fat. The manufactures’ are making claim in regards to actual grams of fat, not calories from fat so the above calculations are not proving anything but calories, calories where not in question; grams of fat are. I followed up with a few items in my household to further examine the actual calories from fat per serving. In my family we do not purchase our groceries based on how “ fat free” it is. So these are a few “ non reduced” items.

The first up was a can of Campbell’s soup. 200 calories per 8oz serving 10g of fat So the first step is to convert ounces to grams 8 x 29= 232grams. Next divide the grams of fat per serving by the grams per serving. 10/232= 23. 2 and multiply by 100% 10/232 x 100%= 4. 3%; the can has no claim to be any percentage of fat free however 95. 7% doesn’t seem too bad if you ask me. Now to prove how many calories come from fat; the first step is to convert grams of fat into calories. As stated above each gram of fat equals 9 calories. So per serving of soup 10 x 9= 90calories. 0 calories divided by calories per serving 90/ 200 x 100%= 45%. Based on this math almost half of the calories in a serving of soup are from fat! Kind of nasty, right? But again the soup company made no claim on how “ fat free” their product really was. And for protein 8 x 4= 32 32/232 x 100%= 13. 8%; The next product was egg nog, a beverage made for the holidays. Each serving is 4oz or 116 grams. Each serving has 8 grams of fat and 170 calories. Manufactures’ math: 8/116 x 100%= 6. 8% Calories from fat math: 8 x 9= 72 72/170 x 100%= 42. 3% Protein 8 x 4= 32 32/170 x 100%= 18. 8%

Lastly I came across a lean cuisine in my freezer. Each serving is 8 oz. or 227 grams according to the packaging. 270 calories and 7 grams of fat Manufactures’ math: 7/227 x 100%= 3. 1%, not too bad. Calories from fat math: 7 x 9= 28 fat calories 28/270 x 100%= 23. 3% Protein 7 x 4= 63 fat calories 63/270 x 100%= 10. 4% After doing a few of these examples I came across a couple of formulas to somewhat simplify how to deduce these values. For the manufactures’ math, if; x= calories y= grams of fat z= ounces of product. z x 29= ounces to grams= Zg Y/Zg x 100%= Factory % For fat from calories math, if: gram of fat = 9 calories x= calories y= grams

of fat z= ounces of product. y x 9= calories from fat= Ycal Ycal/X x 100%= actual calories from fat `I personally do not believe too many things are fat free only because almost EVERYTHING has some amount of fat in it. Except water which even that I am unsure of. this assignment was helpful in a way where I am more apt to do the math for myself using my above formulas to see if what I am reading on the labels are close to claim. Reference Bluman, A. G. (2005) Mathematics In Our World. 1st Ed. Ashford University Custom. United States: McGraw Hill.