MEMO

TO: Your Project Team

FROM: Rob Eby, Senior Consultant for EB Enterprises

I am assigning your team the following project. A chain restaurant has contacted our company and requested some help so that they will avoid legal problems. Realizing that we are often cheaper and better than any other consulting team they might be able to find, they are here right before their big ad runs. Prepare a professional report for the restaurant by the deadline. My standard rate is in effect if you feel the need to talk with me.

**** If you use a concept or formula that we did NOT discuss in class, you better make sure you really fully explain it so that the math geek grading your report is satisfied with your answer. So far, very few student groups have explained anything extra fully! For your grade, it is much safer to stick with things we covered in class. ***

Mr. Eby, What follows are the details of the problem I ran into. I was at a convention for chain restaurant owners, and I ran into the owner of what is now Boston Market. (They used to be Boston Chicken) He was telling me about a major goof in their marketing, that had cost them some bad PR and some free meals. After the conference, I found an article that agreed with his story.

"Teacher’s Diligence Find Fame, Free Lunch", The Morning Call (Allentown), January 21, 1995, Joseph P. Ferry

They offer sixteen side dishes with their meals, and a customer was allowed to choose three of them with each meal. Their ad (apparently featuring quarterback Joe Montana) claimed there were 3360 possible combinations of three side dishes chosen from the sixteen offered. Mr. Bob Swaim convinced them that they had made a mistake, and that there were only 816 combinations possible. Also, Mr. Swaim said his count allowed for the possibility of choosing a side more than once, but the company’s ad did not account for this. Who is correct? Please explain how each group got their numbers.

After hearing about this, I became worried that my calculation of 1,209,600 possible meals for my company was not correct. We offer a $19.95 meal deal, with a choice of three main dishes, either chicken sandwich, chicken breast, chicken pot pie, chicken strips, or veggie lasagna. With each meal, the customer also chooses four sides. Currently we offer French fries, mashed potatoes with gravy, baked potatoes, hash browns, bread, salad, soup, biscuits, cottage cheese, or fruit. So in total, ten sides. We also have four choices for the one dessert that comes with the meal: pie, ice cream, cake, or cookies. So my questions are: did I calculate correctly, and how did Bob Swaim and Boston Market come to their different answers? I need to be able to explain this to my bosses, who are not very math literate. Also, I heard a Whataburger radio ad that claimed there were 36,864 different ways to order their hamburger. I called their corporate headquarters, and they said the person who made the ad no longer worked with their company (Teacher note, this is really true), so they couldn’t tell me how they came up with the number. Could you tell me how they came up with their number?

Lastly, I pulled into a Sonic this past week and parked next to some guy with personalized plates that said ROBEBY. I have no idea who he is, but he is clearly a genius, as I caught the tail end of a discussion he was having with one of the workers there. He seemed to be explaining how to determine the total number of ways to order a Sonic drink. I never heard the number, so could you please figure that our for me also?

*** Note from Professor Eby, it is way more than 250,000 ***

Could you explain all of the details about what they mean by that?

Thanks, Mr. J. I. T. Box.