



FOOD SCIENCE CAREER DEVELOPMENT EVENT

2023 MATH PROBLEMS

1. You have been asked to create a pork and bison snack stick that is 70% lean so it will dry properly. Your bison is 90% lean and your pork trimmings that will be used are 65% lean. Your total batch is 500 pounds. How much bison do I need to order for two batches.
a. 100 pounds b. 200 pounds c. 400 pounds d. 800 pounds
2. I am making 6 batches of a recipe that needs 48 grams of baking soda per batch. How many ounces of baking soda do I need to get all the recipes covered.
b. 9 b. 10 c. 11 d. 12
3. You have been making a wheat cracker product for the last 5 weeks. Your start weight and your finished weights are listed below. What is the average shrink of your product for your last 5 weeks?

Date of Batch	Start Weight in lbs	Final weight in lbs.
9/14/23	625	380
9/20/23	710	520
9/26/23	590	400
10/3/23	680	450
10/12/23	910	630

- a. 67.4% b. 66.2 % c. 33.8 % d. 32.6 %

4. I need to measure the temperature of our roast beef product that we have started selling. My meat thermometer only reads in Celsius. If I need to cook the product to at least 190 degrees Fahrenheit, what should my thermometer read?
- a. 87 degrees C b. 88 degrees C c. 89 degrees C d. 90 degrees C
5. If I have two cylindrical tanks that are 10 feet tall and 6 feet wide. How many 16 oz. bottles of a sports drink can I fill from them when they are full. Consider no free space at the top of the tank.
- a. 33,823
b. 16,904
c. 33,808
d. 27,098