



2019 Food Science Career Development Event

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You will have 15 minutes to complete the problems listed below. You will not write on this sheet. You have a separate sheet to work out your answers. Please write your name and state on the top of the scratch paper provided to you. You will need to bubble your answers in the appropriate boxes on your scantron.

PROBLEM SOLVING/MATH PRACTICUM

1. You are testing a new recipe that the product development team has sent you to verify the cook time. It says to cook the product for 45 minutes at 325° F and the last five minutes at 425° F. How many degrees Celsius is this increase? (FPP.03.02.01b, CRP.02.01.01c, CRP.02.02.01c)
A. 37.78
B. 55.55
C. 77.76
D. 100
2. You have created a new beef jerky product and have offered it to your suppliers. They have ordered 780 packages of jerky that contain 6 ounces each. You know your yield is 68.5 percent on the average batch of jerky. How many pounds of inside round should be sliced to meet this order? (CRP.02.01.01c, CRP.02.02.01c)
A. 248.63
B. 427
C. 569.34
D. 6832.12
3. I am making a new flavored milk beverage that will be flavored with vanilla. If I know my ppm of vanilla is 180, how many ounces should be added to a 100 gallon batch? (FPP.03.02.01b, CRP.02.01.01c, CRP.02.02.01c)
A. 0.018 ounces
B. 0.288 ounces
C. 28.8 ounces
D. 180 ounces

4. You are reformulating a soup product that you currently have on the market. Your soup contains the following ingredients in the listed amounts.

Dried onions	8 g	Noodles	38 g
Dried garlic	2 g	Dried peppers	4 g
Chicken	2 ounces	Salt	6 g
Dried parsley	1 g		

You are wanting to add carrots and make them 8 percent of your product. What amount of carrots will you add to the soup mixture? (FPP.03.02.01a, FPP.03.02.01b, CRP.02.01.01c, CRP.02.02.01c)

- A. 5.30 g
B. 10.07 g
C. 33.15 g
D. 66.30 g
5. You currently have an energy bar on the market but are wanting to increase the protein content of the bar by 4 grams. Using the original nutrition label, calculate the total calories of the product with the increase. (CRP.02.01.01c, CRP.02.02.01c)

Total Fat	9 g	Dietary Fiber	2 g
Cholesterol	15 mg	Total Sugars	8 g
Sodium	150 mg	Protein	5 g
Total Carbohydrates	15 g		

- A. 113
B. 152
C. 161
D. 177