

2018 Food Science CDE Problem Solving/Math Practicum

Directions

You will have 30 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.

1. I am making hamburger from 90/10 lean and 50/50 lean. How many pounds each do I need to make a 100 lb. batch of 73/27 lean hamburger for my meat counter. (AFNR # FPP.03.02.01b and c and CRP .02.01.01.c and CRP .02.02.01.c)
 - a. 42.50 pounds of 90/10 and 57.5 pounds of 50/50
 - b. 38.64 pounds of 90/10 and 61.3 pounds of 50/50
 - c. 57.5 pounds of 90/10 and 42.5 pounds of 50/50
 - d. 58 pounds of 90/10 and 42 pounds of 50/50

2. You are desiring to make a new meal entree that has 450 total calories. You know the product has the following amounts of nutrients:
Fiber – 4 grams
Total Carbohydrates 54 grams
Protein – 9 grams
Cholesterol 200 mg
Sodium – 600 mg
You now need to adjust the fat content to meet the calorie requirement. What is the maximum number of fat grams that your product can contain? (AFNR #FPP.03.02.01.a)
 - a. 13.56
 - b. 20.2
 - c. 22
 - d. 49.5

3. You are producing an extruded corn snack. Your batch started with 760 pounds. During the extrusion process, moisture flashes off due to the high heat and pressure resulting in 468 pounds of corn chips available for you to sell. What was your percent shrink? (AFNR # FPP.03.02.01b and c and CRP .02.01.01.c and CRP .02.02.01.c)
 - a. .3843
 - b. 1.62
 - c. 61.57
 - d. 38.43

4. You have 6 foot by 12 foot cylindrical tank that holds a batch of 2500 gallons, how many 16 ounce sports drink bottles will this batch yield? (AFNR # FPP.03.02.01b and c and CRP .02.01.01.c and CRP .02.02.01.c)
- a. 156.25
 - b. 10,000
 - c. 20,000
 - d. 40,000
5. I am selling an enrobed chocolate energy bar. My goal is to have a 2.4 ounce bar including the chocolate coating. If 22% of my total weight can be chocolate coating, how many grams of coating is on the 2.4 ounce energy bar? (AFNR # FPP.03.02.01b and c and CRP .02.01.01.c and CRP .02.02.01.c)
- a. .528
 - b. 1.872
 - c. 14.98
 - d. 53.12