**Applied Math for Culinary Management**

**2014-2015 Regional Case Study and Form**

**Senior and Occupational Categories**

**Each entry (individual or team) will be given 10 minutes to complete this case study. Participants will turn in this completed form to evaluators prior to their oral presentation.**

**Situation:** A customer has requested carrot cake cupcakes for their upcoming summer party. The party will have about 84 people invited but you know that each person will have one and a half cupcakes (on average). Your favorite recipe yields 12 cupcakes with a recipe cost of $18.97. You need to estimate recipe cost for order to determine the selling price (what you will charge). You need to obtain a profit of 33 percent.

How many cupcakes will you need to prepare?

What would be the conversion factor for your recipe to produce the cupcakes needed?

What is your total cost recipe cost for preparing the desired number of cupcakes?

What is the total cost per cupcake?

What must you charge in order to meet a profit of 33 percent?

Would you prepare the exact amount of cupcakes that you concluded was necessary? Why or why not? What variables about this event might influence your final decisions about preparing the total number of cupcakes? What other information might you request from your client?

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How many cupcakes will you need to prepare?

126 cupcakes

What would be the conversion factor for your recipe to produce the cupcakes needed?

126 cupcakes = 10.5

12 cupcakes

What is your total cost recipe cost for preparing the desired number of cupcakes?

10.5 \* $18.97 = $198.98

What is the total cost per cupcake?

$198.98 = $1.58

126

What must you charge in order to meet a profit of 33 percent?

$1.58 \* 1.33 = $2.10

Would you prepare the exact amount of cupcakes that you concluded was necessary? Why or why not? What variables about this event might influence your final decisions about preparing the total number of cupcakes? What other information might you request from your client?

Answers will vary. Variables may include, but are not limited to, the number of people attendance, time of day of the event, the budget of the client, the cost of carrots during the season, transportation costs, etc. Students should be able to defend their solution(s).