



## Problem of the Week

### Problem B and Solution

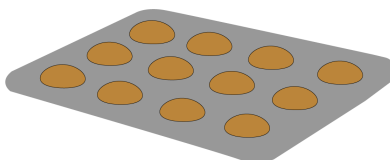
#### Baking Cookies

#### Problem

Felix and Vera are baking cookies. Their recipe bakes 12 cookies and uses the following ingredients:

- $\frac{1}{2}$  cup of butter
- $\frac{1}{3}$  cup of sugar
- 1 cup of flour
- $\frac{2}{3}$  teaspoon of vanilla

- (a) Felix and Vera decide to triple the recipe. How much of each ingredient will they need?
- (b) The cookies are so good that Felix and Vera plan to make 60 cookies for a fundraiser.
- (i) How much butter will they need?
- (ii) Each batch of cookies takes 11 minutes to bake, and their oven can fit only 24 cookies at a time. How long will it take to bake all the cookies for the fundraiser?



#### Solution

- (a) If they triple the recipe, then the amounts of each ingredient will be as follows:

- Butter:  $\frac{1}{2} + \frac{1}{2} + \frac{1}{2} = \frac{3}{2} = 1\frac{1}{2}$  cups
- Sugar:  $\frac{1}{3} + \frac{1}{3} + \frac{1}{3} = 1$  cup
- Flour:  $1 + 1 + 1 = 3$  cups
- Vanilla:  $\frac{2}{3} + \frac{2}{3} + \frac{2}{3} = \frac{6}{3} = 2$  teaspoons

- (b) (i) Since  $12 \times 5 = 60$ , they will need to make 5 batches of cookies. So the amount of butter they will need is  $5 \times \frac{1}{2} = \frac{5}{2} = 2\frac{1}{2}$  cups.
- (ii) Their oven can fit only 24 cookies at a time, which is the same as 2 batches. Since they need to make 5 batches, they will need to bake 2 batches, then another 2 batches, then 1 batch. So the total baking time would be  $11 + 11 + 11 = 33$  minutes.