Name: ........................................................................     Class: ...........................................

## Multiply fractions and mixed numbers by whole number in recipes

**a.** Tom intends to make chocolate caremels for his cousin Roy. He wants to make a reasonable quantity that he needs to tripple the recipe. If he tripples the recipe, what quantity of all the ingredients in the original recipe does he need?

Chocolate caramel: Ingredients
-$1\frac{1}{2}$ tea spoon butter, softened
-$\frac{1}{2}$ cup sugar
-$\frac{3}{4}$ cup light corn syrup
- 2 ounces unsweetened chocolate, chopped
-$1\frac{1}{3}$ cups heavy whipping cream, divided

**b.** Yesterday, Rosemary quadriple a pumpkin pie recipe while making it. What quantity of each ingredient from the original recipe did she use

Pumpkin pie: Ingredients
-$1\frac{1}{4}$ pillsbury refrigerated pie crust
- 2 eggs
-$\frac{3}{4}$ cup sugar
-$1\frac{1}{2}$ teaspoons pumpkin pie spice
-$\frac{1}{2}$ teaspoon salt

mathskills4kids

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Chocolate caramel: Ingredients
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- $\frac{1}{2}$ cup sugar
- $\frac{3}{4}$ cup light corn syrup
- 2 ounces unsweetened chocolate, chopped
- $1\frac{1}{3}$ cups heavy whipping cream, divided

To solve this, Tom needs to multiply each and every ingredient in the oringinal recipe by 3 inorder to tripple it.

$3 \times 1\frac{1}{2}$ teaspoon butter, softened
$= 3 \times 1\frac{1}{2} = 3 \times \left(\frac{1 \times 2 + 1}{2}\right) = \frac{3 \times 3}{2} = \frac{9}{2}$
$= 4\frac{1}{2}$ teaspoons of butter, softened

$3 \times \frac{1}{2}$ cup sugar
$= 3 \times \frac{1}{2} = \frac{3 \times 1}{2} = \frac{3}{2} = 1\frac{1}{2}$ cup sugar

$3 \times \frac{3}{4}$ cup light corn syrup
$= \frac{3 \times 3}{4} = \frac{9}{4} = 2\frac{1}{4}$ cup light corn syrup

3 x 2 ounces unsweetened chocolate, chopped = 6 ounces unsweetened chocolate, chopped.

$3 \times 1\frac{1}{3}$ cups heavy whipping cream, divide
$= 3 \times \frac{1 \times 3 + 1}{3} = \frac{3 \times 4}{3} = \frac{12}{3}$
$= 4$ cups heavy whipping cream, divided.

**b.** Yesterday, Rosemary quadriple a pumpkin pie recipe while making it. What quantity of each ingredient from the original recipe did she use

Chocolate caramel: Ingredients
- $1\frac{1}{4}$ pillsbury refrigerated pie crust
- 2 eggs
- $\frac{3}{4}$ cup sugar
- $1\frac{1}{2}$ teaspoons pumpkin pie spice
- $\frac{1}{2}$ teaspoon salt

To solve this, Rosemary needs to multiply each and every ingredient in the original recipe by 4 inorder to quadriple it.

$4 \times 1\frac{1}{4}$ pillsbury refrigerated pie crust
$= 4 \times \left(\frac{1 \times 4 + 1}{4}\right) = \frac{4 \times 5}{4} = \frac{20}{4} = 5$ pillsbury refrigerated pie crust.

$4 \times 2$ eggs $= 8$ eggs

$4 \times \frac{3}{4}$ cup sugar $= \frac{4 \times 3}{4} = \frac{12}{4} = 3$ cups sugar

$4 \times 1\frac{1}{2}$ teaspoons pumpkin pie spice
$= 4 \times \left(\frac{1 \times 2 + 1}{2}\right) = \frac{4 \times 3}{2} = \frac{12}{2} = 6$ teaspoons pumpkin pie spice

$= 4 \times \frac{1}{2}$ teaspoon salt $= \frac{4}{2} = 2$ teaspoon salt