

Adjusting the Recipe #17

Improper fractions, mixed numbers, multiplication of fractions, division of fractions

Recipes usually tell you how many servings they make. But sometimes you will want to make a different number of servings. When that happens, you must adjust the amount of each ingredient in the recipe.

Example 1: Helen wants to double a recipe for her family gathering.

Problem: A recipe calls for $2\frac{1}{2}$ cups of flour.

Solution: $2 \times 2\frac{1}{2}$

First you must make an improper fraction. $2\frac{1}{2} = 5/2$

$$\text{Then multiply } \frac{2}{1} \times \frac{5}{2} = \frac{10}{2} = 5$$

Helen will need 5 cups of flour to double the recipe.

Example 2: Pat wants to half a recipe for his family.

Problem: A recipe calls for $3\frac{1}{2}$ cups of flour.

Solution: $3\frac{1}{2} \div 2$

First you must make an improper fraction. $3\frac{1}{2} = 7/2$

Then invert the second term and then multiply.

$$\frac{7}{2} \div \left(\frac{2}{1}\right) \quad \frac{7}{2} \times \frac{1}{2} = \frac{7}{4} = 1\frac{3}{4}$$

Pat will need $1\frac{3}{4}$ cups of flour.

Look at the chart below:

| | |
|--|--|
| Half Recipe $\div 2$ | To get half the servings, you make half a recipe. Divide the amount of each ingredient by 2. |
| Double Recipe $\times 2$ | To get twice as many servings, you double the recipe. Multiply the amount of each ingredient by 2. |

Part 1: Below are recipes for caribou stew, bannock and chocolate chip cookies. Your class is going to make a feast for 30 people. Everyone will most likely have one bowl of stew, 2 pieces of bannock and 3 cookies. Calculate how many times you will need to multiply the recipe. Round up – for example if you need to have $2\frac{1}{2}$ times more for one recipe – round it up to 3 times more. Also calculate how much you will need for each ingredient.

| Caribou Stew (makes enough for 6 people) | Multiply by how many times? | How much will you need for each ingredient? |
|---|------------------------------------|--|
| 1 $\frac{1}{2}$ tablespoons of oil | | |
| 1 small onion | | |
| 2 cloves of garlic (minced) | | |
| 1 $\frac{1}{2}$ lbs of caribou | | |
| 2 $\frac{1}{2}$ cups of broth | | |
| 2 $\frac{1}{2}$ cups of diced carrots | | |
| 2 $\frac{1}{3}$ cups of diced celery | | |
| 3 potatoes | | |
| $\frac{1}{2}$ teaspoon of salt | | |
| Dash of pepper | | |