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

Divide fractions by whole numbers in recipes.

1. From the list of ingredients below, what quantity of each ingredient would you need to make a fourth of the original recipe ?
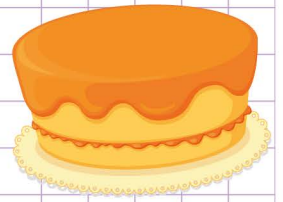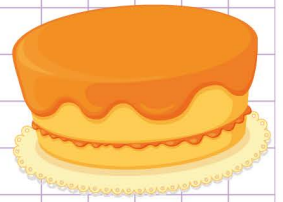
Banana cake: ingredients

$2\frac{1}{2}$ cups all-purpose flour

1 tablespoon baking soda

1 pinch salt

$\frac{1}{2}$ cup unsalted butter

$\frac{1}{2}$ cup chopped walnuts

1 cup white sugar

$\frac{3}{4}$ cup light brown sugar

2 eggs

4 ripe bananas, mashed

$1\frac{1}{3}$ cup buttermilk

mathskills4kids

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Banana cake: ingredients

$2\frac{1}{2}$ cups all-purpose flour   1 cup white sugar

1 tablespoon baking soda $\frac{3}{4}$ cup light brown sugar

1 pinch salt   2 eggs

$\frac{1}{2}$ cup unsalted butter   4 ripe bananas, mashed

$\frac{1}{2}$ cup chopped walnuts $1\frac{1}{3}$ cup buttermilk

The original recipe calls for $2\frac{1}{2}$ cups all-purpose flour. So if you want to make a fourth of $2\frac{1}{2}$ cups all-purpose flour, divide $2\frac{1}{2}$ by 4

$$2\frac{1}{2} \div 4 = 2\frac{1}{2} \div \frac{4}{1} = 2\frac{1}{2} \times \frac{1}{4} = \frac{(2\times2+1)}{2} \times \frac{1}{4} = \frac{5}{2} \times \frac{1}{4}$$

$$= \frac{5\times1}{2\times4} = \frac{5}{8}$$ Therefore, you'll need $\frac{5}{8}$ cups all-purpose flour to make a fourth of the original recipe

As we can see, we have to divide all the quantities by 4, which means to multiply them by $\frac{1}{4}$.

So, the ingredients for the fourth of the original recipe of banana cake is :

$\frac{5}{8}$ cups all-purpose flour $\frac{1}{4}$ cup white sugar

$\frac{1}{4}$ tablespoon baking soda $\frac{3}{8}$ cup light brown sugar

$\frac{1}{4}$ pinch salt $\frac{1}{2}$ eggs

$\frac{1}{8}$ cup unsalted butter   1 ripe bananas, mashed

$\frac{1}{8}$ cup chopped walnuts $\frac{1}{3}$ cup buttermilk