

College Math Example

Name: M Masse Date: _____ Period: _____

RECIPE

1) Here is your super-secret recipe from a relative for the best cookies around.

INGREDIENTS

- $\boxed{3} \frac{\boxed{5}}{\boxed{2}}$ (cups) Butter
- $\boxed{2} \frac{\boxed{4}}{\boxed{3}}$ (cups) Dark Brown Sugar
- $\frac{\boxed{6}}{\boxed{5}}$ (cups) White Sugar
- $\boxed{4} \frac{\boxed{1}}{\boxed{4}}$ (#) Eggs
- $\frac{\boxed{5}}{\boxed{3}}$ (tsp) Vanilla Extract
- $\frac{\boxed{5} + \boxed{3}}{\boxed{4}}$ (ounces) Semi-Sweet Chocolate Chips
- $\boxed{5} \frac{\boxed{4}}{\boxed{3}}$ (cups) AP Flour
- $\frac{\boxed{6} + \boxed{4}}{\boxed{4}}$ (tsp) Baking Soda

$\frac{8}{4}$

$\frac{10}{4}$

2) Use a die to fill in the amounts above for each ingredient.

3) Complete the assignment below

- Rewrite the recipe for $2\frac{1}{2}$ portions.
Use multiplication to show all of your work.
- Rewrite the recipe for 4 portions.
Use addition to show all of your work.
- Use the answers from the previous part to subtract one portion to create a recipe for 3 portions.

• Answer questions about total sugar and butter/extract.

ANSWERS

<u>Original</u>	<u>2 1/2 Portions</u>	<u>4 Portions</u>	<u>3 Portions</u>	<u>Ingredients</u>
$3\frac{5}{2}$	$13\frac{3}{4}$	22	$16\frac{1}{2}$	Butter
$2\frac{4}{3}$	$8\frac{1}{3}$	$13\frac{1}{3}$	10	Dark Brown Sugar
$\frac{6}{5}$	3	$4\frac{4}{5}$	$3\frac{3}{5}$	White Sugar
$4\frac{1}{4}$	$10\frac{5}{8}$	17	$12\frac{3}{4}$	Eggs
$\frac{5}{3}$	$4\frac{1}{6}$	$6\frac{2}{3}$	5	Vanilla Extract
$\frac{8}{4}$	5	8	6	Chocolate Chips
$5\frac{4}{3}$	$15\frac{5}{6}$	$25\frac{1}{3}$	19	Flour
$\frac{10}{4}$	$6\frac{1}{4}$	10	$7\frac{1}{2}$	Baking Soda

Total Sugar ?

$13\frac{3}{5}$

$18\frac{2}{15}$

$11\frac{1}{3}$

more bitter than extract?

$11\frac{1}{2}$

$5\frac{1}{3}$

$9\frac{7}{12}$

$3\frac{5}{6}$

2½ Portions

Multiply

Butter
 $3\frac{5}{2} \cdot 2\frac{1}{2}$
 $\frac{11}{2} \cdot \frac{5}{2}$
 $\frac{55}{4} = 13\frac{3}{4}$

Dark Sugar
 $2\frac{4}{3} \cdot 2\frac{1}{2}$
 $\frac{10}{3} \cdot \frac{5}{2}$
 $\frac{50}{6} = 8\frac{1}{3}$

Sugar
 $\frac{6}{5} \cdot 2\frac{1}{2}$
 ~~$\frac{6}{5} \cdot \frac{5}{2}$~~
 $= 3$

Eggs
 $4\frac{1}{4} \cdot 2\frac{1}{2}$
 $\frac{17}{4} \cdot \frac{5}{2}$
 $\frac{85}{8} = 10\frac{5}{8}$

Vanilla

$$\frac{5}{3} \cdot 2\frac{1}{2}$$
$$\frac{5}{3} \cdot \frac{5}{2}$$
$$\frac{25}{6} = 4\frac{1}{6}$$

Choc Chips

$$\frac{8}{4} \cdot 2\frac{1}{2}$$
~~$$\frac{8}{4} \cdot \frac{5}{2}$$~~
$$= 5$$

Flour

$$5\frac{4}{3} \cdot 2\frac{1}{2}$$
$$\frac{19}{3} \cdot \frac{5}{2}$$
$$\frac{95}{6} = 15\frac{5}{6}$$

Baking Soda

$$\frac{10}{4} \cdot 2\frac{1}{2}$$
~~$$\frac{10}{4} \cdot \frac{5}{2}$$~~
$$\frac{25}{4} = 6\frac{1}{4}$$

4 Portions Add

Butter

$$3\frac{5}{2} + 3\frac{5}{2} + 3\frac{5}{2} + 3\frac{5}{2}$$
$$3+3+3+3 + \frac{5}{2} + \frac{5}{2} + \frac{5}{2} + \frac{5}{2}$$
$$12 \frac{20}{2}$$
$$12 + 10 = 22$$

Dark Sugar

$$2\frac{4}{3} + 2\frac{4}{3} + 2\frac{4}{3} + 2\frac{4}{3}$$
$$2+2+2+2 + \frac{4}{3} + \frac{4}{3} + \frac{4}{3} + \frac{4}{3}$$
$$8 \frac{16}{3}$$
$$8 + 5\frac{1}{3} = 13\frac{1}{3}$$

Sugar

$$\frac{6}{5} + \frac{6}{5} + \frac{6}{5} + \frac{6}{5}$$
$$\frac{24}{5}$$
$$= 4\frac{4}{5}$$

Eggs

$$4\frac{1}{4} + 4\frac{1}{4} + 4\frac{1}{4} + 4\frac{1}{4}$$
$$4+4+4+4 + \frac{1}{4} + \frac{1}{4} + \frac{1}{4} + \frac{1}{4}$$
$$16 + \frac{4}{4}$$
$$= 17$$

Vanilla

$$\frac{5}{3} + \frac{5}{3} + \frac{5}{3} + \frac{5}{3}$$
$$\frac{20}{3} = 6\frac{2}{3}$$

Choc Chips

$$\frac{8}{4} + \frac{8}{4} + \frac{8}{4} + \frac{8}{4}$$
$$\frac{32}{4} = 8$$

4 Port Continued

Flour

$$5\frac{4}{3} + 5\frac{4}{3} + 5\frac{4}{3} + 5\frac{4}{3}$$

$$5+5+5+5 + \frac{4}{3} + \frac{4}{3} + \frac{4}{3} + \frac{4}{3}$$

$$20 + \frac{16}{3}$$

$$20 + 5\frac{1}{3} = 25\frac{1}{3}$$

3 Portions

Subtract:

Butter

$$22 - 3\frac{5}{2}$$

$$\cancel{22} - 3 + \underline{\quad} - \frac{5}{2}$$

$$\cancel{22} - 3 + \frac{2}{2} - \frac{5}{2}$$

$$\cancel{20} - 3 + \frac{4}{2} - \frac{5}{2}$$

$$19 - 3 + \frac{6}{2} - \frac{5}{2}$$

$$16\frac{1}{2}$$

Vanilla

$$6\frac{2}{3} - 5\frac{5}{3}$$

$$6 - 0 + \frac{2}{3} - \frac{5}{3}$$

$$5 - 0 + \frac{5}{3} - \frac{5}{3}$$

$$5$$

Choc Chips

$$8 - \frac{8}{4}$$

$$8 - 2$$

$$6$$

Flour

$$25\frac{1}{3} - 5\frac{4}{3}$$

$$\cancel{25} - 5 + \frac{1}{3} - \frac{4}{3}$$

$$24 - 5 + \frac{4}{3} - \frac{4}{3}$$

$$19$$

Baking Soda

$$10 - \frac{10}{4}^{2\frac{1}{2}}$$

$$\cancel{10} - 2 + \underline{\quad} - \frac{1}{2}$$

$$9 - 2 + \frac{2}{2} - \frac{1}{2}$$

$$7\frac{1}{2}$$

Total Sugar?

$$\text{Orig} \quad 2\frac{4}{3} + \frac{6}{5}$$

$$2 + 0 + \frac{4}{3} + \frac{6}{5}$$

$$2 + \frac{12}{15} + \frac{18}{15}$$

$$2\frac{30}{15} = 2$$

$$\textcircled{4}$$

$$2\frac{1}{2} \quad 8\frac{1}{3} + 3$$

$$8 + 3 + \frac{1}{3}$$

$$\textcircled{11\frac{1}{3}}$$

$$4 \quad 13\frac{1}{3} + 4\frac{4}{5}$$

$$13 + 4 + \frac{1}{3} + \frac{4}{5}$$

$$17 + \frac{5}{15} + \frac{12}{15}$$

$$17\frac{17}{15} = \textcircled{18\frac{2}{15}}$$

$$3 \quad 10 + 3\frac{3}{5}$$

$$10 + 3 + \frac{3}{5}$$

$$\textcircled{13\frac{3}{5}}$$

More Better than extract?

$$\text{Orig} \quad 3\frac{5}{2} - \frac{5}{3}$$

$$3 - 0 + \frac{5}{2} - \frac{5}{3}$$

$$3 + \frac{15}{6} - \frac{10}{6} = \textcircled{3\frac{5}{6}}$$

$$2\frac{1}{2} \quad 13\frac{3}{4} - 4\frac{1}{6}$$

$$13 - 4 + \frac{3}{4} - \frac{1}{6}$$

$$13 - 4 + \frac{18}{24} - \frac{4}{24} = 9\frac{14}{24}$$

$$\textcircled{9\frac{7}{12}}$$

$$3 \quad 16\frac{1}{2} - 5$$

$$16 - 5 + \frac{1}{2} - 0$$

$$\textcircled{11\frac{1}{2}}$$

Dark Sugar

$$13\frac{1}{3} - 2\frac{4}{3}$$

$$\cancel{13} - 2 + \frac{1}{3} - \frac{4}{3}$$

$$12 - 2 + \frac{4}{3} - \frac{4}{3}$$

$$10$$

Sugar

$$4\frac{4}{5} - \frac{6}{5}$$

$$\cancel{4} - 0 + \frac{4}{5} - \frac{6}{5}$$

$$3 - 0 + \frac{9}{5} - \frac{6}{5}$$

$$3\frac{3}{5}$$

Eggs

$$17 - 4\frac{1}{4}$$

$$\cancel{17} - 4 + \underline{\quad} - \frac{1}{4}$$

$$16 - 4 + \frac{4}{4} - \frac{1}{4}$$

$$12\frac{3}{4}$$

Baking Soda

$$\frac{10}{4} + \frac{10}{4} + \frac{10}{4} + \frac{10}{4}$$

$$\frac{40}{4} = 10$$

$$4 \quad 22 - 6\frac{2}{3}$$

$$\cancel{22} - 6 + \frac{3}{3} - \frac{2}{3}$$

$$\textcircled{5\frac{1}{3}}$$