

Name \_\_\_\_\_

Date \_\_\_\_\_

Mr. Tallman

Math 7-8A

**Do Now**

**Using words from the word bank, write words that indicate each mathematical operation.**

<u>Addition</u>	<u>Subtraction</u>	<u>Multiplication</u>	<u>Division</u>	<u>Word Bank</u>
Total	"How much more than"	Product	Quotient	Total
Combined	Difference	Per	How many times greater	Product
	How much greater/less		Per	"How much more than"
	How far apart.			Per
				Difference
				Quotient
				"How much greater/less"
				Combined
				"How many times greater"
				"How far apart"

**Lesson #16 - Applying Operations with Fractions**

Example 1) The temperature at noon is  $0^{\circ}\text{C}$ . The temperature changes  $\frac{-3}{2}^{\circ}\text{C}$  every hour for four hours. What is the temperature at 4:00 pm?

What operation will we be doing? Multiplication

What expression can we write to solve the problem?

$\frac{-3}{2} \cdot 4$

$$\frac{-3}{2} \cdot \frac{4}{1} = \frac{-12}{2} = \textcircled{-6^{\circ}\text{C}}$$

Example 2) During the day, the temperature increases by  $3\frac{1}{2}^{\circ}$ . At night, the temperature decreases by  $5\frac{1}{2}^{\circ}$ . What is the overall change in temperature?

What operation will we be doing? Subtraction

What expression can we write to solve the problem?  $5\frac{1}{2} - 3\frac{1}{2}$

~~$5\frac{1}{2} - 3\frac{1}{2}$~~

$$\frac{4}{2} - \frac{2}{2} = \frac{2}{2} = 2^{\circ}$$

Example 3) Joe is diving  $3\frac{1}{2}$  feet below sea level. He then decides to descend  $8\frac{3}{4}$  more feet. How many feet below sea level is he?

What operation will we be doing? Addition

What expression can we write to solve the problem?  $-3\frac{1}{2} + (-8\frac{3}{4})$

~~$3\frac{1}{2} + 8\frac{3}{4}$~~

$$-\frac{14}{4} + (-\frac{35}{4}) = -\frac{49}{4} = -12\frac{1}{4} \text{ ft}$$

Example 4) Janice is making brownies. Her brownie recipe calls for  $\frac{1}{3}$  of a cup of brownie mixture per serving. How many servings of brownies can Janice make if she has a bag that contains  $5\frac{2}{3}$  cups of brownie mix?

What operation will we be doing? Division

What expression can we write to solve the problem?  $5\frac{2}{3} \div \frac{1}{3}$

$$\frac{17}{3} \div \frac{1}{3}$$
$$\frac{17}{3} \cdot \frac{3}{1} = 17 \text{ Servings}$$

**Now, You Try!**

5) Gus adds  $\frac{3}{4}$  of a cup of chicken stock to a pot. Then he takes  $\frac{1}{8}$  of a cup of stock out of the pot. What is the overall increase or decrease in the amount of chicken stock in the pot?

$$\begin{array}{r} 2 \times \frac{3}{4} \\ 2 \times \frac{1}{8} \end{array} - \frac{1}{8} = \frac{5}{8} \text{ of a cup}$$

6) At the start of a trip, a car's gas tank contains  $5\frac{1}{4}$  gallons of gasoline. During the trip, the car consumes  $2\frac{1}{3}$  gallons of gas. How much gasoline is left in the tank?

$$\begin{array}{r} 3 \times \frac{21}{12} \\ 3 \times \frac{4}{12} \end{array} - \frac{1 \times 4}{3 \times 4} = \frac{35}{12} = 2\frac{11}{12} \text{ gallons}$$

7) Greg sets his watch for the correct time on Wednesday. Exactly one week later, he finds that his watch has lost  $3\frac{1}{4}$  minutes. If his watch continues to lose time at the same rate, what will be his overall change in time after 8 weeks?

$$\begin{array}{r} 3\frac{1}{4} \cdot \frac{8}{1} \\ \frac{13}{4} \cdot \frac{8}{1} \end{array} = 26 \text{ minutes}$$

8) A recipe for a loaf of banana bread requires  $\frac{3}{4}$  of a cup of brown sugar. Shelley has a bag with exactly  $4\frac{1}{2}$  cups of brown sugar in it. What is the maximum number of loaves of banana bread that Shelley can make using her bag of brown sugar?

$$\begin{array}{r} 4\frac{1}{2} \div \frac{3}{4} \\ \frac{9}{2} \div \frac{3}{4} \\ 3\frac{1}{2} \cdot \frac{4}{3} \\ \frac{14}{2} \cdot \frac{4}{3} \end{array} = 6 \text{ loaves}$$

