

# *FRACTIONS*



**BUSINESS MATH  
ABM STRAND**

# *Definition of Terms*



**LET US REVIEW**

# *TERMS*



- Fractions
- Similar fractions
- Dissimilar fractions
- Proper fractions
- Improper fractions
- Mixed numbers
- Equivalent fractions
- Non-equivalent fractions

# *Definition of Terms*



**TIME FOR A NEW ONE**

## Complex Fractions

A complex fraction is a fraction whose numerator and/or denominator is/are also fractions or combinations of fractions.

A complex fraction may be simplified by reducing the entire numerator and/or entire denominator into single fractions and applying the rule on division of fractions.

Example: 
$$\frac{\frac{2}{5} + \frac{1}{3}}{\frac{4}{7} - \frac{1}{2}} = \frac{\frac{6}{15} + \frac{5}{15}}{\frac{8}{14} - \frac{7}{14}} = \frac{\frac{11}{15}}{\frac{1}{14}} = \frac{11}{15} \cdot \frac{14}{1} = \frac{154}{15}$$

Recall the PEMDAS (Parenthesis, Exponent, Multiplication, Division, Addition, Subtraction) Rule in the order of operations.

*Do you have your answers to the assignment?*

TIME TO FIND OUT

1.  $\frac{3}{4} - (3\frac{1}{2} + \frac{11}{8}) + 6\frac{5}{9}$

Solution: 
$$\frac{3}{4} - (3\frac{1}{2} + \frac{11}{8}) + 6\frac{5}{9} = \frac{3}{4} - (\frac{7}{2} + \frac{11}{8}) + \frac{59}{9}$$

$$= \frac{3}{4} - \frac{7}{2} - \frac{11}{8} + \frac{59}{9} = \frac{54 - 252 - 99 + 472}{72} = \frac{175}{72}$$

Note that  $4 = 2^2$ ,  $8 = 2^3$ , and  $9 = 3^2$ . Thus,  $LCD = 2^3 \cdot 3^2 = 72$ .

$$2. 6\frac{1}{4} \div \left(\frac{2}{5} - 8\frac{6}{10}\right)$$

Solution:  $6\frac{1}{4} \div \left(\frac{2}{5} - 8\frac{6}{10}\right) = \frac{25}{4} \div \left(\frac{2}{5} - \frac{43}{5}\right) = \frac{25}{4} \div \left(-\frac{41}{5}\right) = \frac{25}{4} \cdot \left(-\frac{5}{41}\right) = -\frac{125}{164}$

Note that  $8 = 2^3$ ,  $225 = 3^2 \cdot 5^2$ , and  $36 = 2^2 \cdot 3^2$ . Thus,  $\text{LCD} = 2^3 \cdot 3^2 \cdot 5^2 = 1800$ .

$$3. \frac{\frac{1}{5} - 7\frac{9}{8} + 10}{3\frac{4}{5} - 2\frac{3}{7}}$$

Solution: entire numerator =  $\frac{1}{5} - \left(8 + \frac{1}{8}\right) + 10 = 2 + \frac{1}{5} - \frac{1}{8} = \frac{83}{40}$

entire denominator =  $3 + \frac{4}{5} = \left(2 + \frac{3}{7}\right) = 1 + \frac{4}{5} - \frac{3}{7} = 1 + \frac{13}{35} = \frac{48}{35}$

Therefore,  $\frac{\frac{1}{5} - 7\frac{9}{8} + 10}{3\frac{4}{5} - 2\frac{3}{7}} = \frac{83}{40} \div \frac{48}{35} = \frac{83}{40} \cdot \frac{35}{48} = \frac{581}{384}$  or  $1\frac{197}{384}$

1. Find the value of x that satisfies the equation  $156 + \frac{3}{x+5} = 30$ .

Solution: Multiplying both sides of the equation  $156 + \frac{3}{x+5} = 30$  by  $(x+5)$ , we get  $156(x+5) + 3 = 30(x+5)$ .

$$\Rightarrow 156x + 780 + 3 = 30x + 150$$

$$\Rightarrow 156x - 30x = 150 - 780 - 3$$

$$\Rightarrow 126x = -633$$

$$\Rightarrow x = -\frac{633}{126} \text{ or } -\frac{211}{42}$$

*Let's relate it to real-life situations...*

**SOLVE THE FOLLOWING PROBLEMS**

1.

A small pack of gulaman powder requires  $1\frac{3}{4}$  cups of water for cooking. How many cups of water are needed to cook  $7\frac{1}{2}$  packs of gulaman?

2.

A complete set of a grade school uniform requires  $1\frac{3}{4}$  meters of white cloth for the blouse and  $2\frac{1}{3}$  meters of blue cloth for the pants. How much clothing material of each color is required for 35 sets of uniform?

3.

If a class of 120 students took the Business Math exam and  $\frac{3}{5}$  passed the test, how many students failed the test?

4.

Len bought a lot measuring 450 square meters. If 25 sq.m. is allotted for a storage room, what fraction of the entire lot is the storage room?



For lesson handout,  
visit:

<http://jacs.weebly.com>



*THANK YOU!*