SEPTEMBER 18 & 19, 2018

UNIT 1: RATIONAL NUMBERS

SECTION 3.4: MULTIPLYING RATIONAL NUMBERS

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MATH 9

WHAT'S THE POINT OF TODAY'S LESSON?

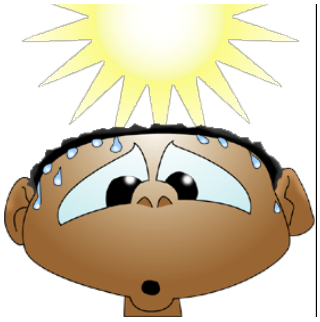
We will continue working on the Math 9 Specific Curriculum Outcome (SCO) "Numbers 3" OR "N3" which states:

"Demonstrate an understanding of rational numbers by: comparing and ordering rational numbers; solving problems that involve arithmetic operations on rational numbers."

What does THAT mean???

SCO N3 means that we will compare and order (largest vs smallest), add, subtract, multiply and divide fractions and any numbers that can be written as fractions. For example, sometimes we will work with 1/2 or 0.5. We have to know how to work with both.

Warm-Up



Evaluate the following expressions:

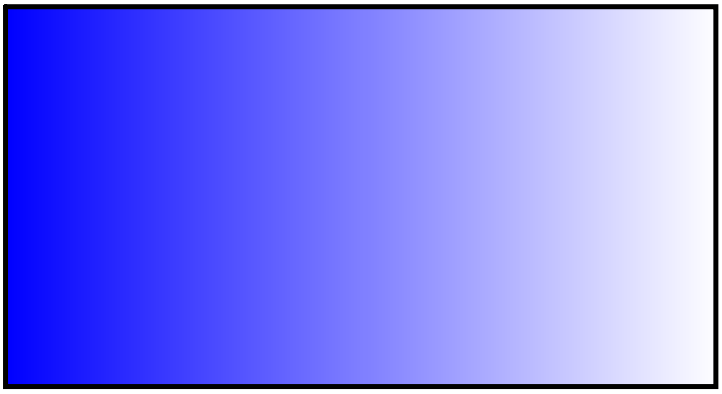
$$\frac{3}{5} - \left(-\frac{1}{2}\right) + \frac{2}{3}$$

$$23.5 + (-12.61) - 3.2$$

SECTION 3.4: MULTIPLYING RATIONAL NUMBERS

THE SIGN RULES FOR MULTIPLYING RATIONAL NUMBERS:

$$(+) \times (+) = +$$
$$(-) \times (-) = +$$
$$(+) \times (-) = -$$
$$(-) \times (+) = -$$



There are several ways to demonstrate multiplication:

$\frac{1}{2} \times \frac{1}{3} = \frac{1}{6}$ $\left(\frac{1}{2}\right)\left(\frac{1}{3}\right)$

$\frac{1}{2}\left(\frac{1}{3}\right)$ $\frac{1}{2} \bullet \frac{1}{3}$

MULTIPLYING RATIONAL NUMBERS IN FRACTION FORM:

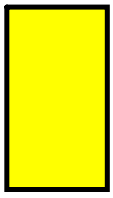
To multiply fractions, simply multiply numerators then denominators. If there are more than two fractions, work from left to right. Reduce answers where necessary.

EXAMPLES:

1) $(-1.5)(-1.8)$

$= 2.7$

2) $\left(\frac{3}{2}\right)\left(\frac{1}{5}\right)$

$= \frac{3}{10}$ 

EXAMPLES:

3) $\left(\frac{11}{7}\right)\left(\frac{-21}{44}\right)$ $-\frac{3}{4}$

$-\frac{231}{308}$

$= -\frac{3}{4}$

4) $\left(-2\frac{2}{3}\right)\left(-1\frac{3}{4}\right)$

$\left(-\frac{8}{3}\right)\left(-\frac{7}{4}\right)$

$= \frac{14}{3}$

$= 4\frac{2}{3}$

EXAMPLES:

5) On February 5, 2008, the price of a share in CIBC changed by -$1.640. A person owns 35 shares. By how much did those shares change in value that day?

$$(35)(-1.640)$$
$$= -57.40$$

The value of the shares decreased by $57.40 that day.

EXAMPLES:

6) Please note that fractions are more accurate than repeating or non-terminating, non-repeating decimals.

ex.: $\frac{2}{3}$ **is more accurate than** $0.\overline{6}$**. Why?**

$0.\overline{6}$ **will end up getting rounded to 0.7 in a calculation which alters the accuracy of the calculation.**

CONCEPT REINFORCEMENT:

MMS9:

Page 127: #6 and 7
Page 128: #9, 10, 11, 12, and 14
Page 129: #15