SEPTEMBER 19, 2018

UNIT 1:   RATIONAL NUMBERS

SECTION 3.5:
DIVIDING 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."
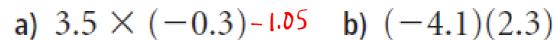
What does THAT mean???

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:

X

Determine each product.

a) $3.5 \times (-0.3)$ −1.05

b) $(-4.1)(2.3)$ −9.43

c) $\left(-\dfrac{4}{7}\right)\left(-\dfrac{2}{3}\right) = \dfrac{8}{21}$

d) $1\dfrac{3}{5} \times \left(-2\dfrac{1}{2}\right)$

$= \dfrac{8}{5} \times -\dfrac{5}{2}$

$= \dfrac{-40}{10}$

$= -4$

HOMEWORK QUESTIONS?
(PGS 127 / 128 / 129, #6, 7, 9, 10, 11, 12, 14, 15)

SECTION 3.5:   DIVIDING RATIONAL NUMBERS

THE SIGN RULES FOR DIVIDING RATIONAL NUMBERS:

$$(+) \div (+) = +$$
$$(-) \div (-) = +$$
$$(+) \div (-) = -$$
$$(-) \div (+) = -$$

EXAMPLES:

1) $(-1.38) \div 0.6$
      $= -2.3$

2) $(-0.25) \div (-0.3)$
      $= 0.8\overline{3}$

EXAMPLES:

3) $\left(\dfrac{-5}{8} \right) \div \dfrac{3}{4}$

$-\dfrac{5}{8} \div \dfrac{6}{8}$

$-\dfrac{5}{6}$ **METHOD 1**

DIVIDING RATIONAL NUMBERS IN FRACTION FORM:

To divide fractions, multiply the first fraction (the "dividend") by the reciprocal of the second fraction (the "divisor"). If there are more than two fractions, work from left to right. Reduce answers where necessary.

RECIPROCALS:

Two numbers whose product is always +1. Basically, turn the fraction upside down.

Example: $\dfrac{2}{3}$ *and* $\dfrac{3}{2}$

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

$$= 1$$

EXAMPLES:

3) $\left(\dfrac{-5}{8}\right) \div \dfrac{3}{4}$

$-\dfrac{5}{8} \times \dfrac{4}{3}$

METHOD 2

$\ast = \dfrac{-20}{24}$

$= \dfrac{-5}{6}$

EXAMPLES:

4) $\left(-4\dfrac{1}{5}\right) \div \left(-3\dfrac{1}{3}\right)$ **METHOD 1**

$= \left(\dfrac{-21}{5}\right) \div \left(\dfrac{-10}{3}\right)$

$= \left(\dfrac{-63}{15}\right) \div \left(\dfrac{-50}{15}\right)$

$= \dfrac{-63}{-50}$

$= 1\dfrac{13}{50}$

EXAMPLES:

4)　　$\left(-4\dfrac{1}{5}\right) \div \left(-3\dfrac{1}{3}\right)$　　**METHOD 2**

$$= \left(\dfrac{-21}{5}\right) \div \left(\dfrac{-10}{3}\right)$$

$$= \left(\dfrac{-21}{5}\right) \times \left(\dfrac{-3}{10}\right)$$

$$= \dfrac{63}{50}$$

$$= 1\dfrac{13}{50}$$

CONCEPT REINFORCEMENT:

MMS9:

Page 134:　**#3, 4, and 5**
Page 135:　**#6 ("mean" = "avg."), 8, 9,**
　　　　　　　11, 12, and 13
Page 136:　**#14 and 15**