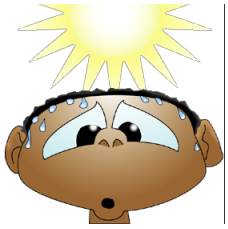
Warm-Up

Evaluate the following expressions:



$-\frac{4}{3}\left(+\frac{7}{2}\right)+\frac{6}{5}$

$-\frac{4^{\times 2}}{3^{\times 2}}+\frac{7^{\times 3}}{2^{\times 3}}+\frac{6}{5}$

$\frac{-8}{6}+\frac{21}{6}+\frac{6}{5}$

$\frac{13^{\div 3}}{6^{\div 3}}+\frac{6^{\times 6}}{5^{\times 6}}$

$\frac{65}{30}+\frac{36}{30}=\frac{101}{30}$

$3\frac{11}{30}$

$23.5+(-12.61)-3.2$

$10.89-3.2$

7.69

Multiplying Rational Numbers

What rules do we use to multiply integers?

Indicate if the answer will be **negative** or **positive**. How do you know?

(-4) x 3 = −

(-3) x (-6) = +

2 x 8 = +

Copy down

When multiplying **integers**, we use the following rules:

(-) x (+) = (-)

(-) x (-) = (+)

(+) x (+) = (+)

So, when the signs are opposite, the product is negative

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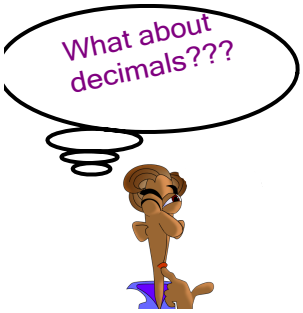
and

when the signs are the same, the product is positive!



When we have decimals use a calculator!

Example 1	Example 2
0.7 x (-1.5)	(-1.45) x (-3.56)
−1.05	+ 5.162

Now, let's take a look at Fractions.

What rules do we use to multiply fractions?

Evaluate the following expression.

How did you get your answer?

$$\frac{6}{5} \times \frac{8}{7} = \frac{48}{35} = 1\frac{13}{35}$$

When multiplying fractions, we use this rule:

Multiply the numerator by the numerator
then
Multiply the denominator by the denominator

** Then, of course, REDUCE!! (if possible)

When we use brackets to write a product,
we do not need the multiplication sign!

We can write

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

AND

$(-1.5) \times 1.8$ as $(-1.5)(1.8)$

Try these out!

Use what you know about multiplying integers & fractions to evaluate the following expressions.

$\left(\frac{7}{-4}\right) \times \frac{9}{2}$ $\quad -\frac{63}{8} = -7\frac{7}{8}$

$9 \times (-3)$ $\quad -27$

$\frac{9}{2} \times \left(\frac{-3}{10}\right) = \frac{-27}{20}$ $\quad -1\frac{7}{20}$

☆ Don't forget to ALWAYS reduce if possible!

(-1.5) x (-1.8) $\quad 2.7$

$\left(-\frac{8}{3}\right) \times \left(-\frac{6}{5}\right)$ $\quad \frac{48}{15} = 3\frac{3}{15} = 3\frac{1}{5}$

$\left(\frac{-48}{15}\right)$ $\quad \left(\frac{35}{12}\right)$

$\left(\frac{-16}{5}\right)\left(\frac{35}{12}\right) = \frac{-560}{60} = \frac{-56}{6}$ $\quad -9\frac{20}{60}$ $\quad -\frac{28}{3} = -9\frac{1}{3}$

Multiplying Rational Numbers in mixed number Form

Determine the product.

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

Improper

The signs are different,
so the product is negative!
Write the mixed numbers as improper fractions:

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

$= -\frac{56}{12}$

$= -4\frac{8}{12}$ (÷4, ÷4)

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

=

Practice Questions
p. 127-129

Questions

3, 4, 5, 7, 11, 12

Do not just write down answers show work. You don't have to rewrite word problems but for 11, 12 write out the questions (NOT JUST THE ANSWERS)