

Name: _____

Date: _____

Aim: How can we multiply and divide rational numbers?

do now:

1) If the **product** of a and b is positive, what do you know about the signs of a and b ?

Evaluate each of the following expressions:

2) $-2\frac{1}{2} \times 3\frac{3}{4}$

3) $-2\frac{1}{2} \div -3\frac{3}{4}$

4) A hot air balloon descended 99.6 meters in 12 seconds. What was the balloon's average rate of change in meters per second?

Multiplying Rational Numbers: _____

Dividing Rational Numbers: _____

Every number has a multiplicative inverse (_____) except for _____.

1) $\left(-3\frac{3}{4}\right)\left(-2\frac{3}{10}\right)$

2) $-\frac{3}{10} \div -\frac{5}{15}$

3) $\frac{1}{2} \div -\frac{7}{8}$

4) $-2\frac{1}{2} \cdot 4\frac{3}{5}$

5) $-36 \cdot \left(-\frac{4}{9}\right) \cdot -\frac{1}{8}$

6) $-2.4(3)$

We can write division expressions as _____, which have a fraction in the numerator, denominator, or both.

Examples:

a) $\frac{\frac{12}{3}}{\frac{4}{4}}$

b) $\frac{\frac{2}{3}}{-2\frac{1}{3}}$

Connections/Word Problem

A 30 minute TV program consists of three commercials, each $2\frac{1}{2}$ minutes long, and four equal-length entertainment segments. How long is each entertainment segment?

A hot air balloon descended 99.6 meters in 12 seconds. What was the balloon's average rate of change in meters per second?

The ground temperature at Brigham Airport is 12°C . The temperature decreases by 6.8°C for every increase of 1 kilometer above the ground. What is the overall change in temperature outside a plane flying at an altitude of 5 kilometers above Brigham Airport?



Complex fractions can be rewritten horizontally as

_____ expressions