

Name _____

Review Algebra 2 Quiz 1

$$\frac{3}{4} \cdot \frac{4}{3} = 1$$

Use PEMDAS to simplify a mathematical expression

Be able to define:

✓ Real numbers	any number or a number
✓ Addition Division	multiply by the reciprocal
✓ Subtraction	add the opposite
✓ Opposite	number equally distant to 0 on the n!
Reciprocal	product = 1 multiplicative inverse $a \cdot \frac{1}{a} = 1$
✓ Reduce	factor + cancel
Least Common Denominator	smallest multiple of numbers
Counterexample	example showing a statement is false

Identify to which sets of numbers a number belongs.

What are the natural numbers?	1, 2, 3, ...
What are the whole numbers?	0, 1, 2, 3, ...
What are the integers?	... -2, -1, 0, 1, 2, 3, ...
What are the rational numbers?	$\frac{a}{b}$ a, b → integers dec. < repeat terminate
What are the irrational numbers?	$\frac{a}{b}$ non-repeating and non-terminating

Identify and be able to USE the Properties of Addition and Multiplication

Commutative	order can change
Associative	what's in () can change
Identity	can always add 0 / multiply by 1
Inverse	$a + (-a) = 0$ sub $a \cdot \frac{1}{a} = 1$ div.
Closure	perform operation on any two numbers
Distributive	in the set, get a number in the set,

Find additive and multiplicative inverses.

Use the distributive property to simplify.

Be able to:

- Reduce fractions.
- Convert mixed and improper fractions.
- Add and subtract simple fractions (like denominators).
- Find the **least common denominator**.

0, 3, 6, 9, ... $3 - 9 = -6$

$3 + 9 = 12$

$$\frac{9x - 14}{5} = \frac{9x}{5} - \frac{14}{5}$$

Find a pattern for a table of inputs and outputs.

Find a counterexample.

