

NAME: _____

Period: _____

Date: _____

Definitions - use definitions from NOTES!!!

Square of a number	the product of a number and itself
Integers	the set of positive and negative whole numbers including zero {...-3, -2, -1, 0, 1, 2, 3,...}
Set	a group or listing of all numbers belonging to the same group; use {} for set notation
Opposite	numbers that are the same distance from zero on the number line
Absolute Value	the distance from zero on the number line; use for absolute value notation
Rational Number	any number that can be written as a fraction
Reciprocal	fraction flipped
Ratio	a comparison of two quantities using division
Rate	a ratio of two quantities with different units
Unit Rate	a rate that has been reduced to a denominator of one
Proportional & Non-proportional	when two or more rates or ratios are equal; when two or more rates or ratios are not equal
Proportion	an equation stating two ratios or rates are equivalent

Writing Equations Key Words - must have at least 3 terms for each symbol

+	-	÷	x	=	<	>	≤	≥
add plus total in all increased by sum* more than*	subtract minus take away lower than decreased by difference* less than*	divided by divided into split quotient*	times twice multiplied by product*	is is equal to is the same as	is less than is fewer than	is greater than is more than	is less than or equal to at most	is greater than or at least

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Rules

Integers

Addition	Subtraction	Multiplication	Division
<u>Same Signs:</u> 1. Add the numbers 2. Keep the sign <u>Different Signs:</u> 1. Subtract larger-smaller 2. Keep sign of larger #	1. Keep 1st # same 2. Change minus to plus 3. Change sign of 2nd # 4. Follow addition rules	<u>Same Signs:</u> positive answer <u>Different Signs:</u> negative answer	<u>Same Signs:</u> positive answer <u>Different Signs:</u> negative answer

Fractions

Addition	Subtraction	Multiplication	Division
1. Find a LCD 2. Add whole/numerators 3. Denominator stays 4. Reduce	1. Find a LCD 2. Borrow if needed 3. Subtract whole/numerators 4. Denominator stays 5. Reduce	1. Change mixed/whole to improper 2. Cross cancel if possible 3. Multiply numerators Multiply denominators 4. Reduce	1. Change mixed/whole to improper 2. Keep-Change-Flip (Multiply by reciprocal) 3. Follow multiplication rules

Decimals

Addition	Subtraction	Multiplication	Division
1. Stack numbers vertically 2. Line up decimal points 3. Add zeros to fill in digits 4. Add from right to left	1. Stack numbers vertically (larger number on top) 2. Line up decimal points 3. Add zeros to fill in digits 4. Subtract from right to left	1. Stack numbers vertically # with more digits on top) 2. Multiply numbers 3. Count digits after decimal in both numbers (same # of places in answer)	1. Top # on inside, bottom # on outside of division bar 2. Move decimal on outside until after last # (same # of places on inside) 3. Divide

Order of Operations

P	parentheses and other grouping symbols; work from inside out
E	exponents
M	multiplication
D	division
A	addition
S	subtraction
LEFT TO RIGHT	
LEFT TO RIGHT	