MATH 0482
Chapter 1.2 Operations with Real Numbers

SUM : RESULT OF ADDING

DIFFERENCE : RESULT OF SUBTRACTING

ADDITIVE INVERSE : $(a)+(-a)=(-a)+(a)=0$

ADDITIVE IDENTITY : $a+0=0+a=a$

ASSOCIATIVE : $(a+b)+c=a+(b+c)$

COMMUTATIVE : $a+b=b+a$

Simplify $-10-(-10)+(-5)$.

Simplify $\frac{2}{9}-\frac{1}{15}+\frac{8}{45}$.

What is 8 subtracted from the sum of 3 and $\frac{1}{2}$?

Zero Factor Property: $a \cdot 0 = 0 \cdot a = 0$

Multiplicative Identity: $a \cdot 1 = 1 \cdot a = a$

Associative: $(a \cdot b) \cdot c = a \cdot (b \cdot c)$

Commutative: $a \cdot b = b \cdot a$

Multiply $5(-3)(-2)(-4)$.

Simplify $10 \div (-2)(-5)$.

Multiply $-\frac{4}{5} \cdot \frac{25}{12}$.

Simplify $\frac{5}{4} \div \frac{3}{5} \cdot \frac{1}{2}$.

Grouping Symbols and Exponents

( ) Parentheses

[ ] Brackets

{ } Braces

— Fraction Bar

Simplify $2 - \left(\frac{4}{5} - \frac{2}{15}\right)$.

Simplify $\dfrac{5 - |4 - (-3)|}{|-3| - (5-7)}$

EXPONENTIAL NOTATION: $5 \cdot 5 \cdot 5 \cdot 5 = 5^4$

$(-3)^4$

-3^4

$(-3)^3$

-3^3

SIMPLIFY -2^4.

SIMPLIFY $(-2)^4$.

ORDER OF OPERATIONS

1) PARENTHESES
2) EXPONENTS
3) MULTIPLY AND DIVIDE LEFT TO RIGHT
4) ADD AND SUBTRACT LEFT TO RIGHT

SIMPLIFY: $5^3 - 24 \div 6 \times \frac{1}{2} + 2.$

SIMPLIFY: $-10 - 5^2 + (-3)^4.$

Simplify: $7-5\left|-2^3+(-3)^2\right|$.

Simplify $-6^2-\left[-15-(-2)^3\right]-(-2)^4$.