

MATH 1010 ~ Intermediate Algebra Chapter 1 Fundamentals of Algebra

Section 1.2: Operations with Real Numbers

Objectives:

- * Add, subtract, multiply and divide real numbers.
- * Evaluate exponential expressions
- * Use order of operations to evaluate expressions.

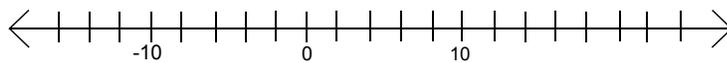
$$4 - 3^2(5 + ^{-}6)^3 + 8 = ?$$

OPERATIONS ON REAL NUMBERS

① EXAMPLE:

Find the sum, difference, product and quotient of these two integers: $a = -8$ and $b = -2$

Place all values on this number line, a,b,S,D,P,Q .



Sum: $a+b$

Difference: $a-b$

Product: $a \times b$ or $a \cdot b$ or ab

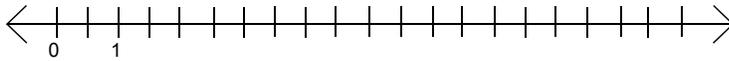
Quotient: $a \div b$ or a/b or $\frac{a}{b}$

Distance between a and b on the number line.

② EXAMPLE:

Find the sum, difference, product and quotient of these two mixed numbers : $a = 6\frac{1}{3}$
 and $b = 2\frac{5}{6}$

Place all values on this number line, a,b,S,D,P,Q .



Sum:

Difference:

Product:

Quotient:

Distance between a and b on the number line.

EXPONENT NOTATION

a^n means

③ Examples:

$$(-5)^3$$

but -3^4

$$\left(\frac{2}{3}\right)^2$$

ORDER OF OPERATIONS

P E M D A S

④ Examples:

$$8 \cdot 3^2 - 4(12+3)$$

$$2(6) + 12 \div 3(2) - 7$$

$$3 + 2 * 5 - 2^3$$