Whole numbers and operations

Place Value

For the number 625429, the place value of each digit is show below.

6	2	5	4	2	9
Hundred Thousands	Ten Thousands	Thousands	Hundreds	Tens	Ones

Addition is represented by the symbol, + (plus).

Example

$625 + 10 + 9 = 644$

Addition is commutative and associative

Commutative - Changing the order of numbers will give you the same answer

Example

$625 + 10 = 635$ *and* $10 + 625 = 635$

Associative - Changing the groups of numbers will give you the same answer

Example

$(3 + 7) + 5 = 15$ *and* $3 + (7 + 5) = 15$

Subtraction is represented by the symbol, - (minus)

Example

$15 - 7 = 8$

Multiplication is represented by × or · (raised dot), or (). Multiplication is commutative and associative.

Example

$7 \times 5 = 35$. This can also be written as $7 \cdot 5 = 35$ or $7(5) = 35$

Division is represented by ÷ or $\overline{)}$

Example

$8 \div 2 = 4$ or $2\overline{)8} = 4$. 8 is called the dividend, 2 is the divisor and 4 is the quotient.

Exponents is represented by a number (base) raised to another number (power or degree)

Example

2^3 Two is the base and three is the degree.

To simplify, multiply the base as many times as specified in the degree.

So, $2^3 = 2 \cdot 2 \cdot 2 = 8$

Order of Operations is the correct sequence to perform operations in

Step 1: Do operations within a parenthesis

Step 2: Simplify exponents

Step 3: Multiply or divide from left to right

Step 4: Add or subtract from left to right

Example

$3 + 4(5 - 2) \div 2^2$

$= 3 + 4(3) \div 2^2$ *(Step 1)*

$= 3 + 4(3) \div 4$ *(Step 2)*

$= 3 + 12 \div 4$ *(Step 3)*

$= 3 + 3$ *(Step 3)*

$= 6$ *(Step 4)*