Exponents

- 2^3 ← exponent

  base ↗ 2

- Multiply the base the number of times the exponent is

ex $2^3 = 2 \times 2 \times 2$

$4 \times 2 = \boxed{8}$

Order of Operations

P - parenthesis
E - exponents
M - Multiplication)
D - division
A - addition)
S - subtraction)

* $\begin{matrix} M,D \\ A,S \end{matrix}$ > from left to right

ex $2 + (6-4) \times 6 \div 2$

$2 \times 6 = 12 \div 2 = 6 + 2$
$= \boxed{8}$

Parts of an Expression

$3x + 6$
↗ ↑ ↑
coefficient   constant
|
variable

- * term: parts seperated by + and −

Combining Like Terms

↳ combine all variable that are the same and combine all constants

ex $3x + 4y + 3y + 6x$
$= 9x + 7y$

ex $3x + 3p + 3 + 6p - 2x$
$= 9p + 1x + 3$

Evaluate Expressions

* take the given value and plug into the expression

ex $7x - 6$ if $x = 8$

$7(8) - 6$

$56 - 6 = \boxed{50}$

* side by side = Multiply

Solving 1 Step Equations

* <u>opposite of</u>:
- addition is Subtraction
- subtraction is addition
- Multiplying is dividing
- dividing is Multiplying

* What you do to one side, you must do to the other!

Solving 1

<u>addition:</u>

ex $3 + x = 12$

$\quad -3 \qquad -3$

$\qquad x = 9$

<u>Subtraction:</u>

ex $P - 9 = 10$

$\quad +9 \quad +9$

$\qquad P = 19$

Step Equations

<u>Multiplication:</u>

ex $6T = 36$

$\quad \div 6 \qquad \div 6$

$\qquad T = 6$

♥ <u>Division</u>

ex

$\dfrac{x}{4} = 9 \times 4$

$\qquad x = 36$