Mathematical Term (Monomial)

- A mathematical term (monomial) is any set of numbers (constants) and/or variables that are multiplied. Those numbers and/or variables are called factors of the term.
- Examples:
  - 2
  - x
  - y
  - xy
  - $-xy^2$
- Note: "like terms" are terms that are of the same type. That means that they have exactly the same set of variables (and each variable has the same exponents). For example, 2 and –3 are both numeric (constant terms); 2x and 14x are both variable terms involving x. However, 4xy and $2x^2y$ are not like terms – they depend on different sets of variables (x and x^2 have different exponents).
- Note: only "like terms" can be added or subtracted.
- Note: in more complex algebra one can combine more complicated expressions as portions of terms. For example, 2x(x – 1) and –3x(x – 1) can be added or subtracted as "like" terms. In this case, (x – 1) is considered as one variable. Similarly, $2\sqrt{x}$ and $-3\sqrt{x}$ are similar radical terms.

Mathematical Expression

- A mathematical expression is one or more algebraic terms connected by addition (+) or subtraction (–).
- Examples:
  - Any single mathematical term described above:
    - 2
    - x
    - y
    - xy
    - $-xy^2$
  - Combinations of those terms using addition (+) or subtraction (–):
    - x + 2y (2 terms)
    - $x^2 - y^2$ (2 terms)
    - x – 3z – 2y (3 terms)
- Note: as discussed above, with parentheses inserted about a mathematical expression – e.g., (x + 2) – that expression can also now be treated as a mathematical variable. For example, 3x (x + 2) may be treated as a single term (with the x + 2 term itself having two terms).

Mathematical Equation

- A mathematical equation is simply two mathematical expressions connected by an equal sign (=).
- Examples:
  - 2 = x – 4
  - x – 1 = y + 1
  - $x^2 - 2x - 3 = 0$