

Writing Polynomials in Standard Form

1. Alphabetical order - Decreasing degree (highest to lowest)

If there is only one variable, it would like like this: $x^3 + x^2 + x$

2. More than one variable - still alphabetical: $x^3 + xy + xy^2$
x decreases
y increases

*Alphabetical order in decreasing degree, then the next variable is listed in increasing order.

“abc” order

a - decreases

b - increases

c - increases

“b” trumps “c”

$$5x^4 + x^2 - x - 9$$

$$3a^5b^3c^4 + a^4bc + abc + 4b^2c^2 + c - 10$$

Standard Form of a Polynomial

1) Combine like terms

2) Degree drops from left to right

$$6x^8 - 7x^2 - 5x + 8 \leftarrow \text{Yes}$$

$$7x^2 + 6x^8 - 5x + 8 \leftarrow \text{No}$$

$$6x^8 - 3x^2 - 4x^2 - 5x + 8 \leftarrow \text{No}$$