

Vocabulary

* Degree: highest Exponent

* Standard form:
the exponents are written
in descending order

* Leading coefficient:
the coefficient with the
highest exponent.

$$4x^3 + 6x^2 - 5$$

| <u>Name</u> | <u>Degree</u> | <u>Example</u> |
|-------------|---------------|-----------------|
| Constant | 0 | 3 |
| Linear | 1 | $3x - 2$ |
| Quadratic | 2 | $4x^2 - 3x + 2$ |
| Cubic | 3 | $6x^3$ |

Types (Terms)

1} Monomial $6, x, 7y, -9x^3y^5z^2$

2} Binomial $x-9; 7x^2-5x$

3} Trinomial $9x^2-5x+2$

many} Polynomial $-8x^3+6x^2-8x+1$

Non-example

$$8x^4 + x^{-3} + 5x^3 + x^2 - 7x + 9$$

leading coefficient → degree
5 3

coefficient: 5, 1, -7, 9

Terms: $5x^3, x^2, -7x, 9$

Cubic Polynomial

| | | | | |
|---------|---|-----------|---|-------------------|
| $7xy^2$ | { | $5x^2+4x$ | { | $-8x^3+2x^2-8x-5$ |
| D: 3 | | 0: 2 | | D: 3 |
| LC: 7 | | LC: 5 | | LC: -8 |
| C: None | | C: None | | C: -5 |

$$6x - x^3 + 4 = -x^3 + 6x + 4$$

D: 3
LC: -1
C: 4

Standard Form

$$1.) (-2x-9) + (x+4)$$

$$\textcircled{-2x} - 9 \textcircled{+x} + 4$$

$$-x - 5$$

$$6.) \textcircled{-x^2} \boxed{+11x} \textcircled{+8} \textcircled{+2x^2} \boxed{+5x} \textcircled{+3} \textcircled{+4x^2} \boxed{-x} \textcircled{+10}$$

$$5x^2 + 15x + 15$$

$$7. -6x^2 + 8x - 8$$

$$1. (7x+10) - (3x-8)$$

$$7x + 10 - 3x + 8$$

$$4x + 18$$

$$29x+5 = \overset{3 \text{ sides}}{23x+6} + y$$

$$-23x-6$$

$$6x-1=y$$

$$(29x+5) - (23x+6)$$