

Warmup

Solve:

$$-x^2 \text{ for } x=3$$

$$-1 \cdot x^2 = -1 \cdot (3)^2 = -1 \cdot 9 = -9$$

$$x^2 \text{ for } x=-3.$$

$$(-3)^2 = 9$$

$$-x^2 \text{ for } x=-3$$

$$-(-3)^2 = -(9) = -9$$

1.2 Polynomials

polynomial: algebraic expression in the form:

$$a_n x^n + a_{n-1} x^{n-1} + \dots + a_1 x + a_0$$

standard form: is in descending order

degree: exponent of the term w/ the highest power.

$$3x^2 - 2x + 7$$

leading coefficient: coefficient of the degree term.

$$\text{Ex: } -2x + 3x^2 - 4x^3 + 7$$

Standard form, degree, leading coef.

$$-4x^3 + 3x^2 - 2x + 7$$

3

-4

monomial : 1 term polynomial Ex: $3x^2y$

binomial : 2 term polynomial : Ex: $x^2 - 4$

trinomial : 3 term polynomial Ex: $x^5 + 3x^2 - 2x$

Use a horizontal format to
add $(2y^4 - 3y^2 + x - 6)$,
 $(-y^3 + 6y^2 + 8)$, $(5y^2 + 8x + 1)$

$$\begin{array}{r} 2y^4 - y^3 - 3y^2 + 6y^2 + 5y^2 + 8x + x + 8 + 1 - 6 \\ \hline 2y^4 - y^3 + 8y^2 + 9x + 3 \end{array}$$

Use a vertical format to subtract $2x^3 - 3x^2 + 7x - 1$ from $x^3 - 6x + 5$

$$\begin{array}{r} x^3 + 0x^2 - 6x + 5 \\ - 2x^3 - 3x^2 + 7x - 1 \\ \hline -x^3 + 3x^2 - 13x + 6 \end{array}$$

p. 24

2-64 even, odds extra
credit