BE-Alg. 2 Monday 10-5-09

① Define a monomial.

② What is the degree of each monomial?

Ⓐ $4x$ Ⓑ $7x^5$ Ⓒ xyz

Ⓓ $\frac{1}{3}x^6y$ Ⓔ 5^2x Ⓕ x^{-1}

ACT Rev.² ③ What is the surface area, in square centimeters, of a 3 centimeter cube?

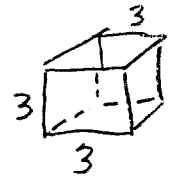
KMI ④ The formula for finding the value, A dollars, of P dollars invested at i% interest compounded annually for N years is $A = P(1 + 0.01i)^N$. What is an expression for P in terms of i, N, and A?

Ans!

① Number, variable, or product of a number and one variables.

② Ⓐ [1] Ⓑ [5] Ⓒ [3] Ⓓ [7] Ⓔ [1] Ⓕ [NA - Not a monomial] (or more)

③



Each side = $9\ cm^2$

$\times$ 6 sides

[$54\ cm^2$]

④ $$P = \frac{A}{(1+0.01i)^N}$$

Solve for P

POLYNOMIAL (many) — A MONOMIAL or SUM (+, −) of MONOMIALS.

(EX) $5xy^2$ — 1-term polynomial = MONOMIAL

$3x + 2$ — 2-term polynomial = binomial

$7y + 2x + 1$ — 3-term polynomial = trinomial

$2x^3 + 4y - 3z + 4$ — 4-term polynomial

$3x + 2x + 6$ — Careful... NOT a trinomial

$= 5x + 6$ — Binomial ⇒ Combine like terms.

Degree of a polynomial — Find the monomial with the highest degree... that is the degree of the polynomial.

THINK like temperature

(EX) Find the degrees:

$$7x + 2x^3 - 6xyz + 2x^4y + 3x^3$$

Monomial degree: (1) (3) (3) (5) (3)

Degree of this 5-term poly is 5

You already know how to +, − polynomials:

Ex 2 Pg 229 $(3x^2 - 2x + 3) - (x^2 + 4x - 2)$

+1 group ⇒ "get out of parentheses jail" free

+1 (group)

−1 group ⇒ must distribute the −1 to all monomials in parentheses jail ⇒ CHANGE ALL SIGNS

−1 (group)

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

$2x^2 - 6x + 5$

* NORMAL WAY TO WRITE POLYNOMIALS is in descending order by degree (highest degree monomial 1st, numbers last)

WHAT IS THE DEGREE OF THIS TRINOMIAL?

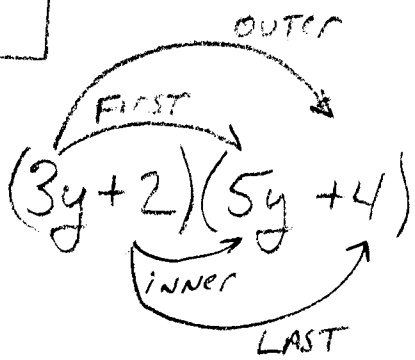
2

You also already know how to multiply polynomials. ("Use your exponent rules Luke")...

Examples ③ → ⑤ on Page 230

③ $2x(7x^2 - 3x + 5)$

$$\boxed{14x^3 - 6x^2 + 10x}$$

④ $(3y+2)(5y+4) \Rightarrow$ 

"FOIL" yccccch, just use arrows!

$15y^2 + 12y$
$+ 10y + 8$
④
$$\boxed{15y^2 + 22y + 8}$$

⑤ $(N^2 + 6N - 2)(N+4)$

$N^3 + 4N^2$
$+ 6N^2 + 24N$
$- 2N - 8$
④
$$\boxed{N^3 + 10N^2 + 22N - 8}$$

- Homework: Pg. 231 # 4-14
  232 # 48, 49, 50.