Algebra I | WEDS. 3-20-13 | CLASS NOTES

Ch. 7-2 Factoring by GCF

⇒ "undoing" the Distriputive Property

⇒ Factor:

$$4x^2 - 3x$$ Second Degree Binomial

$\underline{\underline{\quad}}(\quad - \quad)$
GCF

$\boxed{\underline{\underline{1x}}(4x - 3)}$ ck $x(4x - 3)$
$4x^2 - 3x$ ✓

↑ Monomial, Linear (1st degree)

↑↑ Binomial, linear

products ⇒ they are factors of $4x^2 - 3x$

Ex B $10y^3 + 20y^2 - 5y$

PS 463

Ex C $-12x - 8x^2$

PS 464

Ex D $5x^2 + 7$

NOTE: Some polynomials are prime.

Ex $5b + 9b^3$

Ex $-18y^3 - 7y^2$

Ex $8x^4 + 4x^3 - 2x^2$

Factoring Out A Common Group (Box of Stuff)

Pg 465 (EX A) $7(x-3) - 2x(x-3)$

(EX B) $-t(t^2+4) + (t^2+4)$

(EX C) $9x(x+4) - 5(4+x)$

FBG ⇒ Factoring By Grouping

(EX 4) (EX A) $12a^3 - 9a^2 + 20a - 15$

Pg 466 (EX B) $9x^3 + 18x^2 + x + 2$

(EX) $6x^3 + 8x^2 + 9x + 12$

* (EX) $3x^3 - 15x^2 + 10 - 2x$

NOTE: Sometimes FBG won't work.

Homework: Pg 467 #1-25 ODD

(Ex) $10y^3 + 20y^2 - 5y$

$5y(2y^2 + 4y - 1)$

GLF

(Ex) $-12x - 8x^2$

$4x(-3 - 2x)$ or $-4x(3x + 2x)$

(Ex) $5x^2 + 7$ prime

(Ex) $5b + 9b^3$

$b(5 + 9b^2)$

(Ex) $-18y^3 - 7y^2$

$y(-18y^2 - 7y)$

$y \cdot y(-18y - 7) = y^2(-18y - 7)$

GCF

(Ex) $8x^4 + 4x^3 - 2x^2$

$2x^2(4x^2 + 2x - 1)$

(Ex) $7(x-3) - 2x(x-3)$

$(x-3)(7 - 2x)$

$7a - 2xa$

$a(7 - 2x)$.

(Ex) $-t(t^2+4) + 1(t^2+4)$

$(t^2+4)(-t+1)$

FBG

(Ex) $(12a^3 - 9a^2) + (20a - 15)$

$3a^2(4a - 3) + 5(4a - 3)$

$\boxed{(4a-3)(3a^2+5)}$ FACTORS

(Ex) $9x^3 + 18x^2 + x + 2$

$(9x^3 + 18x^2) + (x + 2)$

$9x^2(x + 2) + 1(x + 2)$

$\boxed{(x+2)(9x^2+1)}$

(8x) $3x^3 - 15x^2 - 2x + 10$

WRONG

$(3x^3 - 15x^2) - (2x + 10)$

$(3x^3 - 15x^2) + (-2x + 10)$

$3x^2(1x - 5) + -2(x - 5)$

$(x-5)(3x^2-2)$