Algebra 1 BE ~ Tuesday 1-25-11

1. Define the ZPP
2. Solve: $(x-6)(3x+4)=0$
3. Solve: $x(2x-1)=0$
4. Factor and solve: $4x^2+12x=0$
5. Solve: $7x^2=6x$

- Homework review Pg. 484 #4-12

Factoring Techniques (Methods)

#1 ⇒ GCF "Pull-out" the GCF and "undo" the D. P. (distributive property)

#2 ⇒ FBG "Factor By Grouping"

One of the few techniques to try on polynomials with 4, or sometimes more, terms.

(Ex) Can you factor this using the GCF?

$$4ab + 8b + 3a + 6$$

No, no GCF for all 4 terms.

Try FBG

Can you make 2 groups with a GCF just for EACH group?

$$\underbrace{4ab+8b}_{\text{Yes, GCF is } 4b} \quad \underbrace{+3a+6}_{\text{Yes GCF is } 3}$$

Group: $(4ab+8b)+(3a+6)$

GCF EACH Group: $4b(a+2)+3(a+2)$

STOP AND CHECK, ARE THE 2 groups NOW EQUAL?

If NOT, STOP

If so, the GCF of EACH group is $(a+2)$

$$\underline{(a+2)}(4b+3)$$

GCF

Ex 2 Pg 482

Is there another way?

You can rearrange the terms to try and get groups with GCF's

$$4ab + 8b + 3a + 6$$

$$4ab + 3a + 8b + 6$$

$$(4ab + 3a) + (8b + 6)$$

$$a(4b + 3) + 2(4b + 3)$$

$$\boxed{(4b+3)(a+2)}$$

Same as $(a+2)(4b+3)$ ✓

WATCH OUT if there is A NEGATIVE RIGHT WHERE YOU WANT TO PUT A PARENTHESES.

(EX) $5y^2-15y+4y-12$ NO problem, just group

$(5y^2-15y)+(4y-12)$

$5y(y-3)+4(y-3)$

$\boxed{(y-3)(5y+4)}$

(EX) $5y^2+4y-15y-12$ WATCH OUT, THE − goes WITH THE −15y NOT −(15y−12)

$(5y^2+4y)+(-15y-12)$

$y(5y+4)-3(5y+4)$ FACTOR A − TO 'CHANGE ALL SIGNS'

$\boxed{(5y+4)(y-3)}$ ✓

Practice: HW #9

⑨ $5c - 10c^2 + 2d - 4cd$

Homework: Pg 484 # 28-32

Tip:

FBG - 3 ways to arrange the terms BUT...

Either 2 of 3 work or 0 of 3 work -- no other options.

So the most you should try to "rearrange" is one time.