

## Algebra 1 BE ~ WEDS. 1-21-09

- 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:  $7x^2=6x$
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• Homework review Pg. 484 #4-12

# Factoring Techniques (Methods)

#1  $\Rightarrow$  GCF "Pull-out" the GCF  
AND "undo" the D.P.  
(distributive property)

#2  $\Rightarrow$  FBG "Factor By Grouping

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

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(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?

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

↑  
Yes, GCF  
is 4b

↑  
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  $(a + 2)$

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

GCF

EX 2  
Pg 482

Is there ANOTHER way?

You can REARRANGE THE TERMS  
TO TRY AND GET groups WITH GCF's

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

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

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

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

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

SAME AS  $(a + 2)(4b + 3)$  ✓

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

Ⓔ  $5y^2 - 15y + 4y - 12$  NO problem,  
just group

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

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

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

Ⓔ  $5y^2 + 4y - 15y - 12$



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

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

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

WATCH OUT,  
THE - goes  
WITH THE -15y  
NOT - (15y - 12)

FACTOR A - TO  
'CHANGE ALL SIGNS'



Practice: HW#9

⑨  $5c - 10c^2 + 2d - 4cd$

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Homework: Pg 484 # 28-32

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