

Algebra I BE - WEDNESDAY 1-5-11

①  $(-2x + 3y - 2) - (-4x + 6y + 1)$

②  $3xy(4x + 2y - 3) + 8xy$

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\* From 2008/2009 ACT Practice Test

\* ③ Simplify  $(4x^2)^3$

\* ④ Simplify  $2(4x + 7) - 3(2x - 4)$

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Homework: Pg 441 # 12-22 evens  
Review # 30

Pg 446-448 # 15, 22, 26,  
34, 38, 62.

1.  
Ch. 8-7

## Multiplying Polynomials

We are going to start by multiplying two binomials

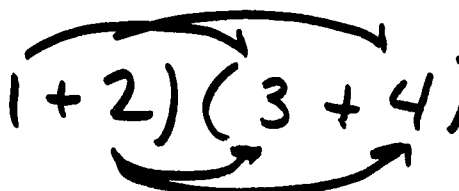
⊗  $(x+3)(x+2)$

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Before we do, let's try a simpler example:

$$(1+2)(3+4) = (3)(7) = 21$$

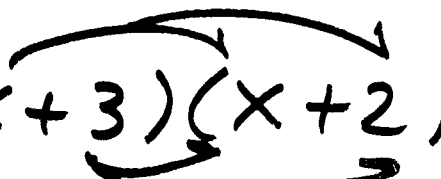
Try  $(1+2)(3+4)$



$$1 \cdot 3 + 1 \cdot 4 + 2 \cdot 3 + 2 \cdot 4 = 3 + 4 + 6 + 8 = 21 \checkmark$$

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using your DP ARROWS works!

$$(x+3)(x+2)$$


$$x^2 + 2x + 3x + 6$$

$$\boxed{x^2 + 5x + 6}$$

$$\textcircled{\text{EX}} \quad (x-5)(x+7)$$

$$(x-5)(x+7)$$

$$x^2 + 7x - 5x - 35 = \boxed{x^2 + 2x - 35}$$

Notice: When you multiplied a 1<sup>st</sup> degree binomial by a 1<sup>st</sup> degree binomial you raised the degree of the answer.

WHAT HAPPENS TO THE degree of a polynomial when you add polynomials?  
Why?

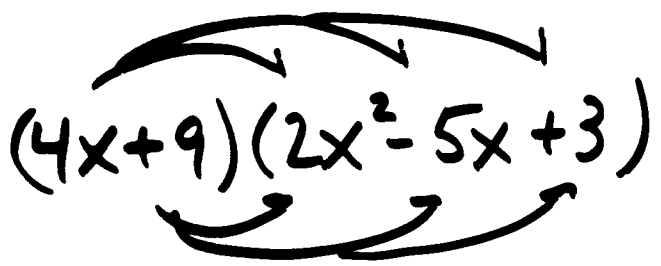
$$\textcircled{\text{EX}} \quad (2y+3)(6y-7)$$

$$12y^2 - 14y + 18y - 21$$

$$\boxed{12y^2 + 4y - 21}$$

How would you multiply a binomial times a trinomial?

EX (4x+9)(2x^2-5x+3)



8x^3 - 20x^2 + 12x + 18x^2 - 45x + 27

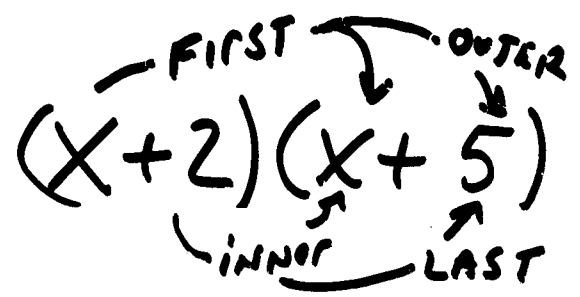
TIP START NEW LINE, LINEUP "like" terms

= 8x^3 - 2x^2 - 33x + 27

EX (x+2)(x+5)

x^2 + 5x + 2x + 10

x^2 + 7x + 10



"FOIL"

FIRST, OUTER, INNER, LAST

JUST use ARROWS!

ⓔ (y<sup>2</sup> - 2y + 5)(6y<sup>2</sup> - 3y + 1)

$$(y^2 - 2y + 5)(6y^2 - 3y + 1)$$

9 MULTIPLICATION for DP

$$6y^4 - 3y^3 + y^2$$

$$-12y^3 + 6y^2 - 2y$$

$$+30y^2 - 15y + 5$$

ADD

$$6y^4 - 15y^3 + 37y^2 - 17y + 5$$

Homework: Pg 455 # 13-37 every 3<sup>rd</sup>

13, 16, 19, ...

(1<sup>st</sup> column)