

February 4thDue Today: 7.1 VN + HW
Due Next Class: 7.2 HW

Unit 7: Polynomials

Lesson 7.2 Multiplying Polys



Get Ready: Simplify the following and Name your answers with terms and degree

1. $(3z - 5 + 2z^2) + (3z - z^2)$

 $z^2 + 6z - 5$
quadratic trinomial

2. $(10m^3 + 5) - (2m^2 + 2 - m^3)$

3. $(-5p^2 + 2 + 3p) - (5p^2 + 2)$

HW Review

$$\textcircled{2} \quad (\cancel{3} + 2b^2) + (\cancel{1} + 3b^3)$$

$$3b^3 + 2b^2 + 4$$

DEGREE	NAME
0	Constant
1	Linear
2	quadratic
3	Cubic
4	Quartic
5	Quantic
6	Sextic
7	Septic
8	Octic
9	Nonic
10	Decic
12	Dodeci

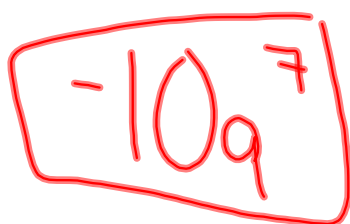
# of TERMS	NAME
1	Monomial
2	Binomial
3	Trinomial
4 or More	n term Polynomial

Multiplying Polynomials

type	example	what to do?
Mono * Mono		
Mono * Binomial Mono* Trinomial		
Binomial*Binomial		
Binomial*Trinomial		

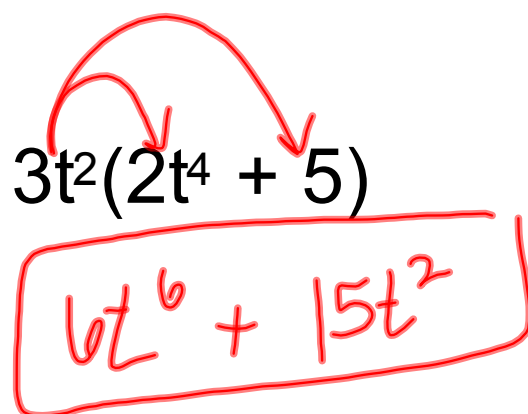
Monomial * Monomial = just exponent multiplication

$$(5a^2) * (-2a^5)$$



-10a⁷

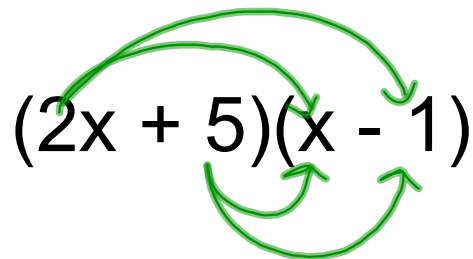
Monomial * Binomial = distribute!



Handwritten diagram showing the distribution of $3t^2$ to $2t^4$ and 5 . Red arrows point from $3t^2$ to $2t^4$ and 5 . The result $6t^6 + 15t^2$ is enclosed in a red box.

$$3t^2(2t^4 + 5)$$
$$6t^6 + 15t^2$$

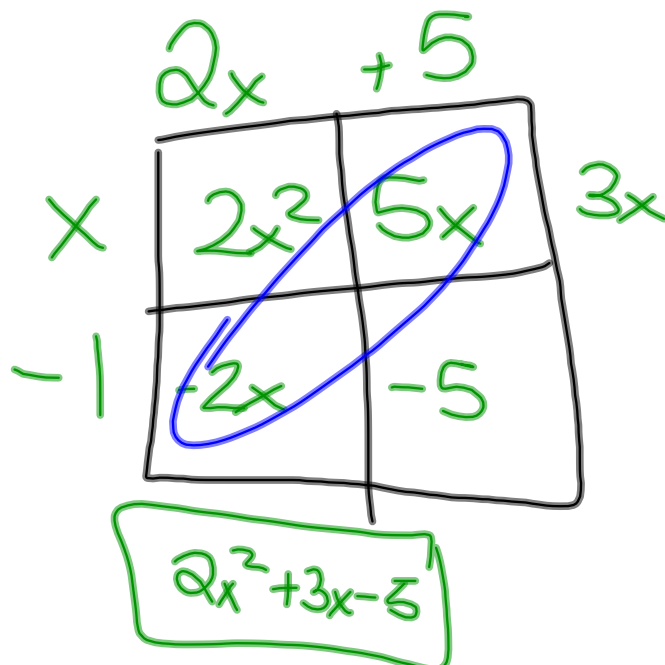
Binomial * Binomial = double distribute / 2x2 box method

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


$$2x^2 - 2x + 5x - 5$$

$$\boxed{2x^2 + 3x - 5}$$

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



$$\boxed{2x^2 + 3x - 5}$$

Binomial * Trinomial=double- triple distribute
or 2x3 box method

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

$$a^3 + 3a^2 - 4a + 2a^2 + 6a - 8$$

$$a^3 + 5a^2 + 2a - 8$$

	a	$+2$
a^2	a^3	$2a^2$
$3a$	$3a^2$	$6a$
-4	$-4a$	-8

$$a^3 + 5a^2 + 2a - 8$$

$$\begin{array}{r} (x^2 + 3) \\ \times (2x - 5) \\ \hline -5x^2 - 15 \\ 2x^3 6x 0 \\ \hline 2x^3 - 5x^2 + 6x - 15 \end{array}$$

Practice! Identify the type of polynomial multiplication and simplify.

1) $(2n + 1)(n - 1)$

2) $5r(6r + 8)$

3) $(8p + 7)(6p^2 + 3p + 3)$

4) $x^2 \cdot 2x^2$

5) $2x(7x^2 - 5x + 4)$

6) $(a - 2)(3a - 3)$

7) $(3x^5 + 2x - 3)(x^3 - 2x^2 + x)$

Show off your work!

1) $(2n+1)(n-1)$

	$2n$	1
n	$2n^2$	n
-1	$2n$	-1

$$2n^2 - n - 1$$

2) $5r(6r+8)$

$$30r^2 + 40r$$

3) $(8p+7)(6p^2+3p+3)$

$$\begin{array}{l}
 48p^3 + 24p^2 + 24p^2 + 21p + 21 \\
 \hline
 48p^3 + 48p^2 + 21p + 21
 \end{array}$$

4) $x^2 \cdot 2x^2$

$$2x^4$$

5) $2x(7x^2 - 5x + 4)$

$$14x^3 - 10x^2 + 8x$$

6) $(a-2)(3a-3)$

$$3a^2 - 3a - 6a + 6$$

$$3a^2 - 9a + 6$$

How can we multiply THIS?

$$(6x^2 - 8x - 1)(x^3 - 2x^2 + 3x + 4)$$

$$6x^5 - 12x^4 + 18x^3 + 24x^2$$

$$-8x^4 + 16x^3 - 24x^2 - 32x$$

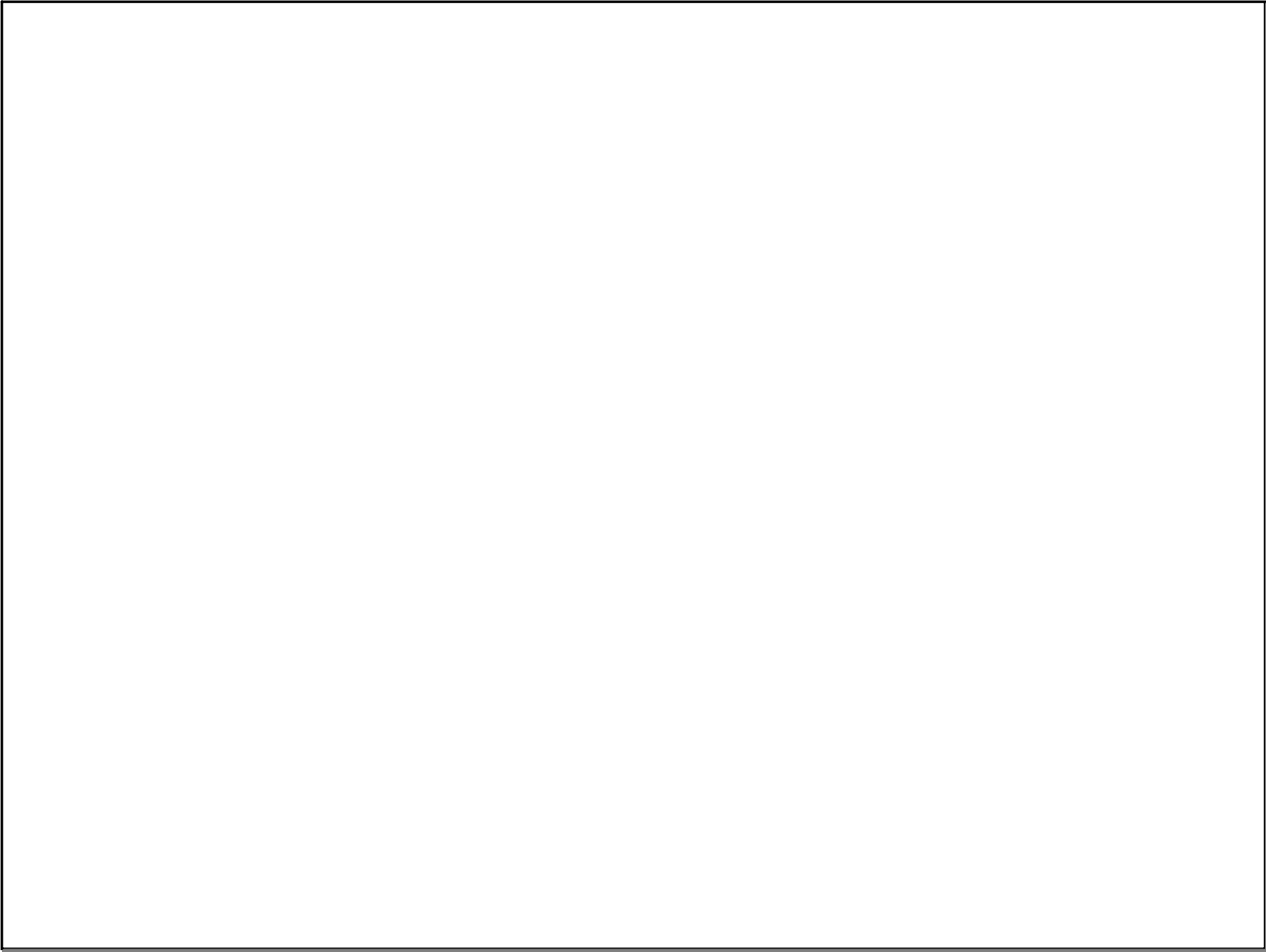
$$\begin{array}{ccccccc} & & -x^3 & +2x^2 & -3x & +4 \\ \hline 6x^5 & -20x^4 & +33x^3 & +2x^2 & -35x & +4 \end{array}$$

Unit Recap:

HOMEWORK: hw 7.2

NEXT TIME: division of poly

Due Next Time:



Attachments



Projectile Motion - Wile E Coyote.flv



Superman, get to the chopper!.mp4