Expanding means to:

- Eliminate the parentheses
- Multiply
- Distributive Property

Expanding two binomials:

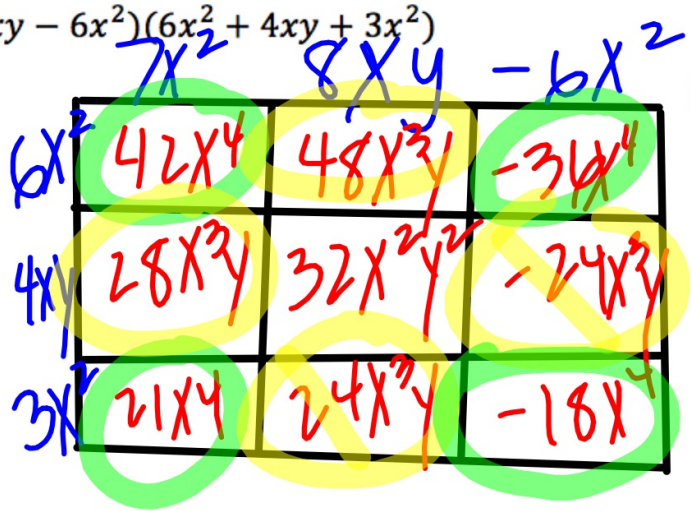
- FOIL-Method
- Distributive Property
- Box-Method

Expanding two polynomials:

- FOIL-Method Only works if you're multiplying 2 binomials.
- Distributive Property ALWAYS WORKS
- Box-Method ALWAYS WORKS

Find each product. Write your answer in Standard Form, where necessary.

1. $(7x^2 + 8xy - 6x^2)(6x^2 + 4xy + 3x^2)$



$9x^4 + 76x^3y + 32x^2y^2$

2. $(2u + 3)(8u - 7)$

$2u(8u-7) = 16u^2 - 14u$

$3(8u-7) = 24u - 21$

$= 16u^2 + 10u - 21$

3. $(6n-4)(2n^2-2n+5)$

$12n^3-12n^2+30n-8n^2+8n-20$

$12n^3-20n^2+38n-20$

4. $(x+7)(x-12)$

$x^2-5x-84$

Factor each using the GCF.

5. $96x^5y^4 - 48x^2y^6 + 72x^4y^7$

$24x^2y^4(4x^3 - 2y^2 + 3x^2y^3)$

6. $42x^6y^3 - 63x^4y^2 + 84x^3y^4$

$21x^3y^2(2x^3y - 3x + 4y^2)$

Give the name of each by it's degree

1. $8x^3 - 7x^2$

A. Cubic
B. Linear
C. Constant
D. Quadratic
E. Binomial

2. $4x$

A. Constant
B. Monomial
C. Linear
D. Quadratic
E. Cubic

Give the name of each by it's degree

3. $5x^2 + 6x - 45$

A. Trinomial
B. Linear
C. Quadratic
D. Cubic
E. Constant

4. 27.9

A. Cubic
B. Quadratic
C. Linear
D. Monomial
E. Constant

Give the name of each by the number of terms.

1. $3x - 7$

A. Linear
B. Monomial
C. Binomial
D. Constant
E. Trinomial

2. $4a^3$

A. Monomial
B. Cubic
C. Trinomial
D. Binomial
E. Linear

Give the name of each by the number of terms.

3. $7m^2 - 9m + 2$

A. Binomial
B. Quadratic
C. Monomial
D. Cubic
E. Trinomial

Factoring is the inverse of Distributive Property

Distributive Property → Multiplying

Factoring → Dividing

Find the Greatest Common Factor of each polynomial

	GCF
1. $4k^6 - 18k^4 - 10k^2$	$2k^2$
2. $-24e^6f^4 - 36e^3f^6 + 15e^2f^9$	$3e^2f^4$
3. $54a^5b^4c + 36a^3b^7c^4 - 63a^2b^{10}c^2$	$9a^2b^4c$

Fill in the blanks:

$10m^2 - 15m = \underline{5m}(2m - 3)$

$6w^3 + 12w^2 = 6w^2 (\underline{w+2})$

$\frac{8g^4}{2g} + \frac{2g}{2g} = 2g (\underline{4g^3+1})$

Factoring using the GCF

$8x^3 + 6x^2 = \underline{2x^2}(\underline{4x+3})$

GCF

What is left after dividing by GCF

Factor using GCF

$20Q^5 + 16Q^3 - 36Q =$ $4Q(5Q^4+4Q^2-9)$

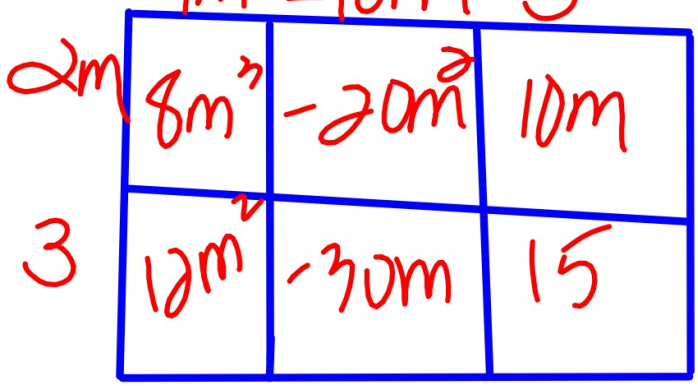
Factor using the GCF

$15x^4y^2 + 18x^3y^3 + 21x^2y^5 =$ $3x^2y^2(5x^2+6xy+7y^3)$

Expand. Write the answer in Standard Form.

$(2m + 3)(4m^2 - 10m + 5)$

$4m^2 \quad -10m \quad 5$



$8m^3 - 8m^2 - 20m + 15$