

Multiplying Polynomials



Overview of problems



Example Set: A

Multiply the given polynomials

$$2x(3x-9)$$

$$4x^2(-2x-x^2+1)$$

$$-3x^2(5x^3-2x^2+10x-3)$$

$$2xy^2(3xy-x^2y+2)$$

$$-4t^3d(-2td^4)$$



Example Set: B

Multiply the given polynomials using F.O.I.L.

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

$$(3x + 2)(2x + 1)$$

$$(x - 8)(4x + 2)$$

$$(2x + 9)^2$$

$$(4t - d)(2t + 3d)$$



Example Set: C

Multiply the given polynomials

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

$$(2x-2)(x^2+6x-5)$$

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

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

$$3x(x^2+1)(x-2)$$

Multiplying Polynomials



Overview of problems- KEY



Example Set: A

Multiply the given polynomials

$$2x(3x-9) \quad 6x^2 - 18x$$

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

$$-3x^2(5x^3 - 2x^2 + 10x - 3) \quad -15x^5 + 6x^4 - 30x^3 + 9x$$

$$2xy^2(3xy - x^2y + 2) \quad 6x^2y^3 - 2x^3y^3 + 4xy^2$$

$$-4t^3d(-2td^4) \quad 8t^4d^5$$



Example Set: B

Multiply the given polynomials using F.O.I.L.

$$(x + 1)(x - 5) \quad x^2 - 4x - 5$$

$$(3x + 2)(2x + 1) \quad 6x^2 + 7x + 2$$

$$(x - 8)(4x + 2) \quad 4x^2 - 30x - 16$$

$$(2x + 9)^2 \quad 4x^2 + 36x + 81$$

$$(4t - d)(2t + 3d) \quad 8t^2 + 10td - 3d^2$$



Example Set: C

Multiply the given polynomials

$$(x+3)(4x^2-x+1) \quad 4x^3 + 11x^2 - 2x + 3$$

$$(2x-2)(x^2+6x-5) \quad 2x^3 + 10x^2 - 22x + 10$$

$$(4x+1)(3x^2-6x+2) \quad 12x^3 - 21x^2 + 2x + 2$$

$$(2a+b)(a-2b)(4a^2+3b^2) \quad 8a^4 - 12a^3b - 2a^2b^2 - 9ab^3 - 6b^4$$

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