

Multiplying Polynomials

9-17-18

* use the distributive property

* multiply each term in one polynomial by EVERY term in the second polynomial.

- add exponents (with same base)
- combine like terms at end

Examples:

$$1. (m-2)(3m^2-7m+8) = 3m^3 - 7m^2 + 8m - 6m^2 + 14m - 16$$
$$= 3m^3 - 13m^2 + 22m - 16$$

$$2. (a^2+a+1)(a-1) \text{ OR } (a-1)(a^2+a+1) = a^3 + a^2 + a - a^2 - a - 1$$
$$= a^3 - 1$$

$$3. (3x+1)(4x^2-2x+1) = 12x^3 - 6x^2 + 3x + 4x^2 - 2x + 1$$
$$= 12x^3 - 2x^2 + x + 1$$

$$4. x(x-1)(2x-7) = (x^2-x)(2x-7) = 2x^3 - 7x^2 - 2x^2 + 7x$$
$$= 2x^3 - 9x^2 + 7x$$