

Multiplying Polynomials - Notes

To multiply polynomials, use the

If it is a:

(1) MONOMIAL TIMES POLYNOMIAL

DISTRIBUTE!

$$2x^2 (3x + 4y - 6)$$
$$6x^3 + 8x^2y - 12x^2$$

(2) BINOMIAL TIMES POLYNOMIAL

DOUBLE

DISTRIBUTION

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

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

$$6x^2 + 8xy - 12x + 3x + 4y - 6$$

$$6x^2 + 8xy - 9x + 4y - 6$$

(3) TRINOMIAL TIMES POLYNOMIAL

TRIPLE

DISTRIBUTION

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

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

$$9x^3 + 12x^2y - 18x^2 - 3x^2 - 4xy + 6x + 6x + 8y - 12$$

$$9x^3 + 12x^2y - 21x^2 - 4xy + 12x + 8y - 12$$

(4) POLYNOMIAL TIMES POLYNOMIAL

Distribute every term of the 1st polynomial to each term of the 2nd polynomial.

SPECIAL PATTERNS

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The SQUARE OF A BINOMIAL equals a PERFECT SQUARE TRINOMIAL.