

4.2 Special Products

Use any representation to investigate the following multiplications.
Can you find any patterns?

$$(x - 2)^2$$

$$(x + 3)^2$$

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

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

$$(2x + y)^2$$

Each is a...

$$(a + b)^2 =$$

$$(a - b)^2 =$$

When you square a binomial, the result is ALWAYS a _____.

Investigate again... do you see any patterns?

$$(x - 2)(x + 2)$$

$$(x + 3)(x - 3)$$

$$(2y + 5)(2y - 5)$$

$$(3k + 7)(3k - 7)$$

$$(3x + 2b)(3x - 2b)$$

Each is a...

$$(a + b)(a - b) =$$

Ex. 1 Expand and simplify each of the following.

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

b) $(3x + 7)^2 - (2x - 1)(2x + 1)$