Find each product.

1. $(b + 9)^2$

$b^2 + 18b + 81$

$+9b + 9b$

2. $(g - 7)^2$

$g^2 - 14g + 49$

$(a + 5)^2$ When coefficient of the variable is 1:

$a^2 + 10a + 25$

twice the constant (include the sign)

constant squared

Why will the sign on the constant in the trinomial always be POSITIVE?

Take a white board.

1. Expand $(N + 10)^2$

$N^2 + 20N + 100$

2. Expand $(R - 8)^2$

$R^2 - 16R + 64$

Expand.

$(2a + 5)^2$

$(2a+5)(2a+5)$

$4a^2 + 10a + 10a + 25$

$4a^2 + 20a + 25$

$(7w-8)^2$

$49w^2 - 112w + 64$

$(2a + 5)^2$

When coefficient of the variable isn't 1:

$a^2 + 20a + 25$

twice the product of the coefficient and the constant

constant squared

In general: $(ax + b)^2$

$$(ax)^2 + 2ab + b^2$$

In general: $(ax - b)^2$

$$(ax)^2 - 2ab + b^2$$

Expand each.

$(e + 7f)^2$

$e^2 + 14ef + 49f^2$

$(2c^3 - 5d)^2$

$4c^6 - 20c^3d + 25d^2$

Expand each.

1. $(m + 6)(m - 6)$

$m^2 - 36$

2. $(Q - 7)(Q + 7)$

$Q^2 - 49$

3. $(2K - 5)(2K + 5)$

$4K^2 - 25$

When expanding factors that look like this: $(a + b)(a - b)$

Conjugates

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

Why is the sign always a minus?

because you are always mutliplying a pos with a neg

Take a white board.

$(c + 3)(c - 3) = c^2 - 9$

$(w + 17)(w - 17) = w^2 - 289$

$(10a - 9)(10a + 9) = (10a)^2 - (9)^2$

$= 100a^2 - 81$

Use a white board

$(13m - 2n)(13m + 2n) = (13m)^2 - (2n)^2$

$= 169m^2 - 4n^2$

$(4k^3 - 7j^2)(4k^3 + 7j^2) = (4k^3)^2 - (7j^2)^2$

$= 16k^6 - 49j^4$

Hwk #28 Sec 9-4

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Problems 2, 3, 6, 18-20, 38, 49