

Alg I 8.4 notes.notebook

8.4 MULTIPLYING SPECIAL CASES

The **BIG** idea...

There are special rules you can use to find the square of a binomial and the product of a sum and difference of a binomial.

Squaring a binomial

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

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

Product of a sum and difference

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

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

Simplify.

1) $(x-3)^2$

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

3) $(a-7)^2$

Simplify by using mental math.

4) 17^2

5) 61^2

6) 39^2

Simplify.

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

8) $(2x-3y)(2x+3y)$

9) $(y+11)(y-11)$

Simplify by using mental math.

10) $43 \cdot 37$

11) $84 \cdot 96$

12) $72 \cdot 68$