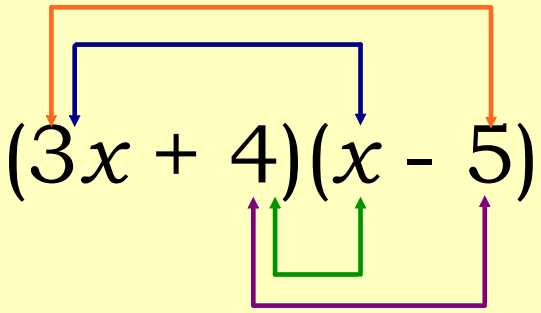
To multiply a binomial by a binomial, you can use the FOIL Method.

$(3x + 4)(x - 5)$



FIRST

OUTER

INNER

LAST

$(3x)(x) + (3x)(-5) + (4)(x) + (4)(-5)$

$3x^2 + -15x + 4x + -20$

$3x^2 + -11x + -20$

$3x^2 - 11x - 20$

Use the FOIL method to find the product.

1. $(4x + 1)(2x - 3)$

$(4x)(2x)$ $(4x)(-3)$ $(1)(2x)$ $(1)(-3)$

$8x^2 - 12x + 2x - 3$

$8x^2 - 10x - 3$

Use the FOIL method to find the product.

2. $(x - 5)(6x - 7)$

$(x)(6x)$ $(x)(-7)$ $(-5)(6x)$ $(-5)(-7)$

$6x^2 - 7x - 30x + 35$

$6x^2 - 37x + 35$

Use the FOIL method to find the product.

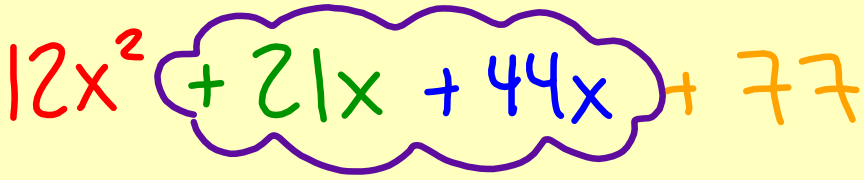
3. $(8x - 3)(2x + 1)$

$16x^2 + 8x - 6x - 3$

$16x^2 + 2x - 3$

Use the FOIL method to find the product.

4. $(3x + 11)(4x + 7)$



$12x^2 + 65x + 77$

You can also multiply
two binomials
using the
distributive property.

Recall from Chapter 2,
$3(2x - 5)$ becomes $6x - 15$.

5. $x(3x^2 + 6x - 8)$

$3x^3 + 6x^2 - 8x$

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

$-6x^3 + 3x^2 - 12x$

Use the distributive property to find the product.

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

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

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

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

$x^2 + -3x + 2x + -6$

$x^2 + -1x + -6$

$x^2 - x - 6$

Use the distributive property to multiply.

7. $(x - 2)(x + 4)$

$(x)(x)$ $(x)(4)$ $(-2)(x)$ $(-2)(4)$

$x^2 + 4x - 2x - 8$

$x^2 + 2x - 8$

Use the distributive property to multiply.

8. $(2x + 1)(x + 2)$

$(2x)(x)$ $(2x)(2)$ $(1)(x)$ $(1)(2)$

$2x^2 + 4x + 1x + 2$

$2x^2 + 5x + 2$