

key

Unit 7:  
 Multiplying Polynomials

Remember...??

$x + x = 2x$

$x + x^2 = x + x^2$

$3x + 2x = 5x$

$x \cdot x = x^2$

$x \cdot x^2 = x^3$

$3x \cdot 2x = 6x^2$

Distribute:

a)  $4(x + 5)$

$4x + 20$

b)  $-6x(7 - x)$

$-42x + 6x^2$

c)  $3x(x^2 + 2x + 5)$

$3x^3 + 6x^2 + 15x$

d)  $-2x(x^3 - 2x - 4)$

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

What happens now?

$(x + 4)(x + 5)$

$x^2 + 5x + 4x + 20$

$x^2 + 9x + 20$

Try it on your own! Multiply the binomials!

a)  $(x - 7)(x + 3)$

$x^2 - 7x + 3x - 21$

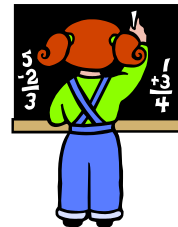
$x^2 - 4x - 21$

b)  $(-y - 1)(y + 2)$

$-y^2 - 1y - 2y - 2$

$-y^2 - 3y - 2$

Try some more!



a)  $(3x + 1)(6x - 5)$

$$18x^2 - 15x + 6x - 5$$

$$18x^2 - 9x - 5$$

b)  $(x - 7)^2$

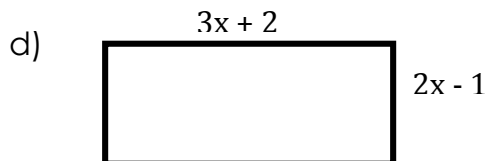
$$(x-7)(x-7)$$

$$x^2 - 14x + 49$$

c)  $(y - 4)(y + 4)$

$$y^2 + 4y - 4y - 16$$

$$y^2 - 16$$



Find the area of the rectangle.

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

$$6x^2 - 3x + 4x - 2$$

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

What do we do now?!?!?

1.)  $(2x+1)(3x^2+2x+1)$

$$6x^3 + 4x^2 + 2x + 3x^2 + 2x + 1$$

$$6x^3 + 7x^2 + 4x + 1$$

2)  $(3x-2)(5x^2-3x-4)$

$$15x^3 - 9x^2 - 12x - 10x^2 + 6x + 8$$

$$15x^3 - 19x^2 - 6x + 8$$

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

$$-2x^3 + x^2 - 3x - 8x^2 + 4x - 12$$

$$-2x^3 - 7x^2 + x - 12$$

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

$$4x^4 - 4x^3 - 2x^2 - 4x^2 + 8x + 4$$

$$4x^4 - 4x^3 - 6x^2 + 8x + 4$$