# Today's Learning Goal(s):

Date: Feb. 20/19
(Every lesson)

By the end of the class, I will be able to:

a) multiply 2 binomials.
b) expand and simplify the product of a monomial and two binomials.

## 2.1 Working with Quadratic Expressions

Recall: When multiplying, multiply the coefficients; and add the exponents if the variables are the same.

Ex.1 Multiply the following.

a) $4x(3x-7)$

$= 12x^2 - 28x$

b) $(3x-2)(4x+5)$ FOIL

$= 12x^2 + 15x - 8x - 10$

$= 12x^2 + 7x - 10$

c1) $(x+1)^2$

$= (x+1)(x+1)$

$= x^2 + 1x + 1x + 1$

$= x^2 + 2x + 1$

c2) $(x+3)^2$

$= (x+3)(x+3)$

$= x^2 + 3x + 3x + 9$

$= x^2 + 6x + 9$

c3) $(x+5)^2$

$= (x+5)(x+5)$

$= x^2 + 5x + 5x + 25$

$= x^2 + 10x + 25$

c4) $(x-4)^2$

$= (x-4)(x-4)$

$= x^2 - 4x - 4x + 16$

$= x^2 - 8x + 16$

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

$= (3x-4)(3x-4)$

$= 9x^2 - 12x - 12x + 16$

$= 9x^2 - 24x + 16$

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

$= 2(x+3)(x+3)$

$= 2(x^2 + 6x + 9)$

$= 2x^2 + 12x + 18$

f) $-2(x+6)(5x-2)$

$= -2(5x^2 - 2x + 30x - 12)$

$= -2(5x^2 + 28x - 12)$

$= -10x^2 - 56x + 24$

g) $5(y-6)(y+2) - (2y+3)(4y-1)$

$= 5(y^2 + 2y - 6y - 12) - (8y^2 - 2y + 12y - 3)$

$= 5(y^2 - 4y - 12) - (8y^2 + 10y - 3)$

$= 5y^2 - 20y - 60 - 8y^2 - 10y + 3$

$= -3y^2 - 30y - 57$

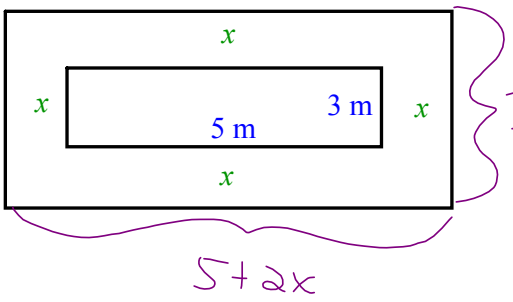
*Challenge*

A) $(3x^5y - 2x^3y^4z)^2$

B) $(2x^3y - 3x^5y^4z)^2$

$9x^{10}y^2 - 12x^8y^5z + 4x^6y^8z^2$

Ex. 2 Express the area of the large rectangle as a function of $x$.




$A = lw$

$= (5+2x)(3+2x)$

$= 15 + 10x + 6x + 4x^2$

$= 4x^2 + 16x + 15$

Practice: pp.85-87 #2, 3, 5 - 7, 14

Be sure to keep up with your homework....SWYK is coming Monday!

$(2x-3)^2$

$= 4x^2 - 12x + 9$

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

$= 4x^6y^2 - 12x^8y^5z + 9x^{10}y^8z^2$