MULTIPLYING BINOMIALS - FOIL $(x+3)(x-2)$

First some terminology…

A **POLYNOMIAL** is an _____ made up of _____ terms separated by _____ or _____

Examples:

A **MONOMIAL** is a _____ with _____ term Ex -

A **BINOMIAL** is a _____ with _____ terms Ex -

A **TRINOMIAL** is a _____ with _____ terms Ex -

EXERCISE: Identify each polynomial expression as a monomial, binomial, or trinomial.

Polynomial Expression	Monomial, Binomial, or Trinomial???
$x^2 + 5x$	
7	
$45p^2q - 15q^3$	
$2x^2 + 8x - 4$	
ab^3c	
$-2x - 4x^2$	

How to Multiply Binomials – the FOIL Method

F: Multiply the _____ terms in each bracket together
O: Multiply the _____ terms in each bracket together
I: Multiply the _____ terms in each bracket together
L: Multiply the _____ terms in each bracket together

This is the Distributive Property (Rainbow Method) applied twice

Example 1

Step 1: Use FOIL

a) $(x + 2)(x + 3)$

b) $(2x - 4)(x + 6)$

Step 2: Collect Like Terms and Simplify

Example 2 $(3x - 2)(2x + 5)$

MULTIPLYING BINOMIALS

Step 1: Use **FOIL** (First, Outside, Inside, Last)

Step 2: Collect Like Terms and Simplify

Example 3 $(m - 5)(m + 5)$

Example 4 $(a - 3)^2$

Application Example

A swimming pool has dimensions $L = (2x + 1)$ and $W = (3x - 3)$

a) Determine an expression for the area in terms of x.

b) Find the area when $x = 10$ metres.