5.3 Multiplying Polynomials

MATH 1010 ~ Intermediate Algebra
Section 5.3: Multiplying Polynomials

Objectives:
- Use the Distributive Property to multiply polynomials.
- Use special product formulas to multiply two binomials.
- Use multiplication of polynomials in application problems.

How do we multiply polynomials?

a) \(3x(-2x + 7)\)

b) \((4x^2 - 7)(3x^2 + 2x + 1)\)

c) \((x - 2)(3x + 4)\)
Look for a pattern.

a) \((x - 2)(x + 2)\)

b) \((3x - 5)(3x + 5)\)

Look for a pattern.

a) \((4x + 7)^2\)

b) \((2x - 3)^2\)
Multiply these.

a) \((w + (y + 1))(w - (y + 1))\)

b) \((a + b)^3\)

Application

Write an expression in terms of \(x\) for the perimeter and area of the shaded region.

Determine the value of each if \(x = 4\text{cm}\).