Algebra I

Notes Section 8.2

Multiplying Polynomials

Big Ideas

1. How to use the distributive property to multiply polynomials.
2. How to use the FOIL Method to multiply binomials.

EXAMPLE 1 Find the product.

a. $2x^3(x^3 + 3x^2 - 2x + 5)$

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

FOIL Method: F _____

O _____

I _____

L _____

EXAMPLE 2 Find the product.

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

F _____

O _____

I _____

L _____

b. $(a + 3)(2a + 1)$

F _____

O _____

I _____

L _____

c. $(4n - 1)(n + 5)$

F _____
O _____
I _____
L _____

d. $(4b - 5)(b - 2)$

F _____
O _____
I _____
L _____

EXAMPLE 3 Find the product.

a. $(b^2 + 6b - 7)(3b - 4)$

_____

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b. $(2x^2 + 5x - 1)(4x - 3)$

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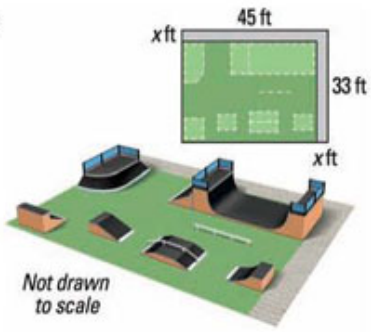
EXAMPLE 4 The dimensions of a rectangle are $x + 3$ and $x + 2$. Find the expression represents the area of the rectangle?

EXAMPLE 5 You are designing a rectangular skateboard park on a lot that is on the corner of a city block. The park will have a walkway along two sides. The dimensions of the lot and the walkway are shown.



a. Write a polynomial that represents the area of the skateboard park.

b. What is the area of the park if the walkway is 3 feet wide?