

## Warm - Up 1/11

Simplify. Write your answer in standard form.

$$(6 + 3x)(4x + 2)$$

$$\underline{24x + 12} + \overset{4}{-12x^2} + \underline{-6x}$$

$$18x + -12x^2 + 12$$

$$\cancel{18x} + \cancel{-12x^2} + 12$$

$$-12x^2 + 18x + 12$$

Simplify

$$(6 + a^2)(2a^2 + a^4)$$

$$\underline{6 \cdot 2a^2} + \underline{6a^4} + \underline{a^2 \cdot 2a^2} + \underline{a^2 \cdot a^4}$$

$$12a^2 + 6a^4 + 2a^4 + a^6$$

$$\boxed{a^6 + 8a^4 + 12a^2}$$

Simplify

$$(-k^2 + 6)(k^4 + 2k^2)$$

$$-k^6 + 2k^4 + -6k^4 + 12k^2$$

$$-k^6 - 4k^4 + 12k^2$$

3.3

### A General Procedure for Multiplying Polynomials

p. 79

When multiplying two polynomial factors multiply **each** term in the first factor with **every** term in the second factor.

Simplify

$$(x^2 + 2)(x^2 - x + 2)$$

$$\underline{x^2 \cdot x^2} + \underline{-x^2 \cdot x} + \underline{-x^2(2)} + \underline{2x^2} + \underline{-2x} + \underline{-2 \cdot 2}$$

$$x^4 + -x^3 + \cancel{-2x^2} + \cancel{2x^2} + 2x + -4$$

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

**Simplify**

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

Homework (due 1/15)

p.76 - 77 (29-34)

p. 76 (23-28)

