

Unit 6 Multiplying & Dividing Polynomials**6.2 Multiplying Polynomials by Monomials**Recall **distribution** from unit 5:

$$3(3x - 2)$$

$$= \boxed{9x - 6}$$

$$-2(4x^2 - 3x + 1)$$

$$= \boxed{-8x^2 + 6x - 2}$$

We can extend distribution to monomials with variables:

Ex. Multiply:

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

$$= \boxed{6x^2 + 12x}$$

b) $4x(2x - 1)$

$$= \boxed{8x^2 - 4x}$$

c) $-5x^2(3x^2 - 2x - 4)$

$$= \boxed{-15x^4 + 10x^3 + 20x^2}$$

d) $2ab^3(a^3 - 3a^2b + 4ab^2 - 1)$

$$= \boxed{2a^4b^3 - 6a^3b^4 + 8a^2b^5 - 2ab^3}$$