

4.4 Multiply Polynomials by Monomials

$$\begin{aligned} & 2x(3x+1) \\ &= (2x)(3x) + (2x)(1) \\ &= 6x^2 + 2x \end{aligned}$$

ex.1

$$\begin{aligned} & 2(x+5) \\ &= 2(x) + 2(5) \\ &= 2x + 10 \end{aligned}$$

$$\begin{aligned} 3. & (-3)(4t-8) \\ &= (-3)(4t) - (-3)(8) \\ &= -12t - -24 \\ &= -12t + 24 \end{aligned}$$

$$5. (-4)(8c-7)$$

DISTRIBUTIVE PROPERTY
— expanding by multiplying the monomial by each term in the polynomial

ex2.

$$\begin{aligned} & 3(4t-8) \\ &= 3(4t) - 3(8) \\ &= 12t - 24 \end{aligned}$$

$$\begin{aligned} 4. & (-2)(5c+3) \\ &= (-2)(5c) + (-2)(3) \\ &= -10c + -6 \\ &= -10c - 6 \end{aligned}$$

$$= (-4)(8c) - (-4)(7)$$

$$= -32c - -28$$

$$= -32c + 28$$

$$6. \quad 4x(5x-3)$$

$$= (4x)(5x) - (4x)(3)$$

$$= 20x^2 - 12x$$

4x3
3x4

$$7. \quad (5x-3)(4x)$$

$$= (5x)(4x) - 3(4x)$$

SAME

$$= 20x^2 - 12x$$

8. expand and simplify

$$6(x+3) - 7(2-4x)$$

$$= 6(x) + 6(3) - 7(2) - (-7)(4x)$$

$$= \underline{6x} + \underline{18} - \underline{14} + \underline{28x}$$

$$= 34x + 4$$

$$9. \quad 5(x+3) - 2(2x-7)$$

$$= 5(x) + 5(3) - 2(2x) + (-2)(7)$$

$$= 5(x) + 5(3) \quad || \quad (-2)(2x) + (-2)(7)$$

$$= \underline{5x} + \underline{15} \quad \underline{-4x} + \underline{14}$$

$$= x + 29$$

10. $2(m-5) - 3(3m + \underline{4})$

$$= \underline{2m} - 10 - \underline{9m} - \underline{12}$$

$$= -7m - 22$$

p 120 # 1 (don't draw), 4, 5, 7, 9-12