

## Chapter 5 and 7 - Polynomials

### LESSON 6: MULTIPLYING MONOMIALS WITH POLYNOMIALS

To multiply polynomials by monomials:

1. Use the distributive property, which allows us to expand algebraic expressions. We do this by multiplying the monomial by each term in the polynomial.

$$(a)(b + c) = ab + ac$$

Ex.1: Use the distributive property to expand each expression:

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

b)  $(2 + c)(c)$

c)  $(-3)(3x - 6)$

d)  $4y(2x - 1)$

e)  $-\frac{4}{3}x(6x - 12)$

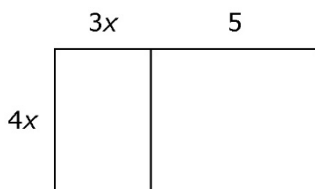
f)  $4.2n(2n - 7)$

g)  $(3a^2 - 2a + 1)(-7a)$

h)  $(2p^2r - 4)(-2p)$

Area models can also be used to expand expressions.

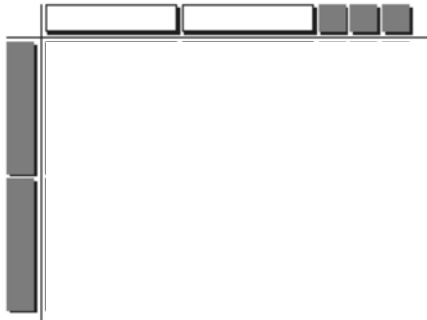
Ex.2: What polynomial multiplication statement is represented by the area model shown?



You can also use algebra tiles to expand.

Ex.3: Determine the multiplication or division modelled by the algebra tiles and solve.

a)



b)

