

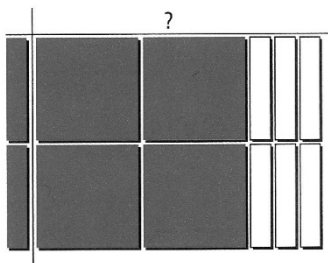
## Chapter 5 and 7 - Polynomials

### LESSON 7: DIVIDING POLYNOMIALS BY MONOMIALS

To divide a polynomial by a monomial, must divide each term in the polynomial by the monomial. You can divide (or reduce) the numerical coefficients and apply the exponent laws to the variables.

You can also use algebra tiles to divide a polynomial by a binomial

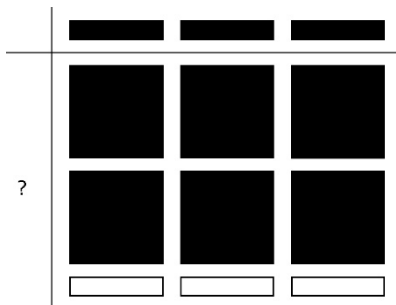
$$\begin{aligned}\frac{4x^2 - 6x}{2x} &= \frac{4x^2}{2x} - \frac{6x}{2x} \\ &= \frac{4x^2}{2x} - \frac{6x}{2x} \\ &= 2x - 3\end{aligned}$$



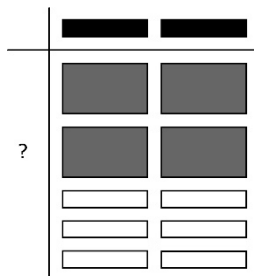
When using algebra tiles, the unknown side length of the rectangle is made up of  $2x-3$  tiles

Ex.1: Determine the polynomial division statement shown by the algebra tiles. Determine the quotient.

a)



b)



Ex.2: Determine each quotient

a)  $\frac{15x^2 - 20x}{5x}$

b)  $\frac{16m^2 + 20mn}{4m}$

c)  $\frac{18k^2 - 9k}{9k}$

d)  $\frac{12m + 18mn}{-6m}$

e)  $\frac{1.4d^2 + 1.8dk - 1.6d}{2d}$

f)  $\frac{9c^2 - 12c + 6}{-3}$