Name_____ Date_____

Multiplying and Dividing Polynomials

Part A: Multiplying Polynomials

1. How do you know that $(x) \times (x) \neq 2x$? Use a model to support your answer.

2. Use algebra tiles to model each multiplication.

   a) $2x(3x + 1)$

   b) $-3x(4x - 1)$

Name_____ Date_____

3. Multiply. Use the distributive property.

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

b) $4(5y^2 - 3y + 8)$

c) $-6x(-2x - 9)$

Mathology 9 PEI, *Algebraic Expressions*
Copyright © 2026 Pearson Canada Inc.

The right to reproduce or modify this page is restricted to purchasing schools.
This page may have been modified from its original.

Multiplying and Dividing Polynomials (cont'd)

Part B: Dividing Polynomials

Recall that $(8x^2 - 10) \div 2$ can be written as

$\frac{8x^2}{2} - \frac{10}{2} = 4x^2 - 5$

Similarly,

$(-6x^2 + 12x) \div 3x$ can be written as

$\frac{-6x^2}{3x} + \frac{12x}{3x} = -2x + 4$

1. How does your knowledge of dividing fractions and exponent laws help you simplify a division expression?

2. Use a symbolic strategy to divide.

   a) $(8x^2 + 2x) \div (2x)$

   b) $(-6x^2 - 3x) \div (-3x)$

   c) $(-6x^2 - 8x) \div (2x)$

Multiplying and Dividing Polynomials (cont'd)

3. a) Simplify this expression.

$\left(\frac{9s}{-3}\right)(-4s)$

b) How did your knowledge of the order of operations help you simplify the expression?

4. Simplify each expression without using algebra tiles.

a) $(14x^2 - 7x) \div 7x$

b) $(-8x^2 + 6x - 4) \div 2$

c) $\left(\frac{4m^2}{-2m}\right)(-3m)$