**Multiplying and Dividing Polynomials**

**Algebra**

**Unit 1 Line Master 8a**

**Part A: Multiplying Polynomials**

1. How do you know that (*x*)× (*x*)≠ 2*x*? Use a model to support your answer.

2. Use algebra tiles to model each multiplication.

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

b) −3*x*(4*x* − 1)

 **Multiplying and Dividing Polynomials** (cont’d)

**Algebra**

**Unit 1 Line Master 8b**

3. Multiply. Use the distributive property.

 a) 2(2*x*² − 3*x* + 1)

b) 4(5*y*² − 3*y* + 8)

c) −6*x*(−2*x* − 9)

 **Multiplying and Dividing Polynomials** (cont’d)

**Algebra**

**Unit 1 Line Master 8c**

**Part B: Dividing Polynomials**

Recall that (8*x*² ‒ 10) ÷ 2 can be written as

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

Similarly,

(‒6*x*² + 12*x*) ÷ 3*x* can be written as

$\frac{-6x^{2}}{3x}+ \frac{12x}{3x}$ = ‒2*x* + 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) (8*x*² + 2*x*) ÷ (2*x*)

b) (−6*x*² − 3*x*) ÷ (−3*x*)

c) (−6*x*² − 8*x*) ÷ (2*x*)

 **Multiplying and Dividing Polynomials** (cont’d)

**Algebra**

**Unit 1 Line Master 8d**

1. a) Simplify this expression.

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

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

4. Simplify each expression without using algebra tiles.

a) (14*x*² − 7*x*) ÷ 7*x*

b) (‒8*x*² + 6*x* ‒ 4) ÷ 2

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