Date: _____

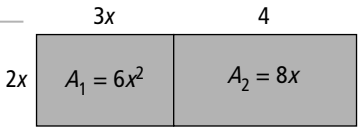
7.2 Multiplying Polynomials by Monomials

***MathLinks 9*, pages 264–271**

Key Ideas Review

1. Multiplication can be represented using models. Fill in the blanks to complete the statements.

a) The figure shows an example of a(n) _____ model.



b) The model in part a) represents the expression

(_____)(_____ + _____) = _____ + _____.

2. Use the distributive property to multiply the monomial and the polynomial. Then, expand the expression.

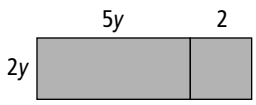
$(-2x)(5x + 6)$ = (_____)(_____) + (_____)(_____)

= _____ − _____

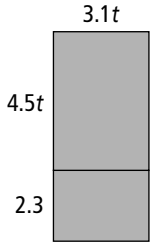
Check Your Understanding

3. Write the multiplication expression for each model.

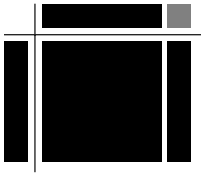
a)



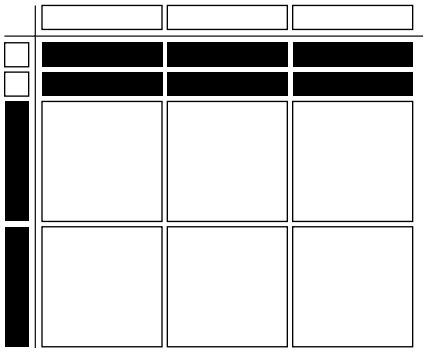
b)



c)



d)



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4. Sketch an area model to represent each expression.

a) $(2.3g)(4.6g + 5)$

b) $(5 + 7.2f)(2.1f)$

5. Use models to represent each expression.

a) $(-2d + 3)(-3d)$

b) $(-s)(-3s - 5)$

6. Use the distributive property to multiply each pair of expressions. Do not simplify.

a) $(1.2z)(-4z + 2y)$

b) $(-2e - 3f + 4)(-e)$

7. Multiply. Then, simplify.

a) $(7v)(-7v - 7x)$

b) $(-4x)(-7 + 3y)$

c) $(b)(-0.1a + 8b - 0.7c)$

d) $\left(\frac{a}{4}\right)(6a - 4)$

8. A rectangular pool has a length 2 m shorter than twice its width.

a) Write an expression to determine the pool's perimeter. What is its perimeter?

b) Write an expression to determine the surface area of the pool. What is the surface area?

9. At a restaurant, the menu included the following choices:

Menu

Coffee	$3.50
Soup of the Day	$5.95
Garden Salad	$6.95
Catch of the Day	Market Value
Cheesecake	$7.75

a) Sheeyin and Kaitlin each order coffee, soup, a garden salad, the catch of the day, and cheesecake. Write a simplified expression to show the total cost for their meals.

b) Write an expression to calculate a 15% tip on the total for the meal.

c) The catch of the day cost $14.95. What was the total bill, including the tip?