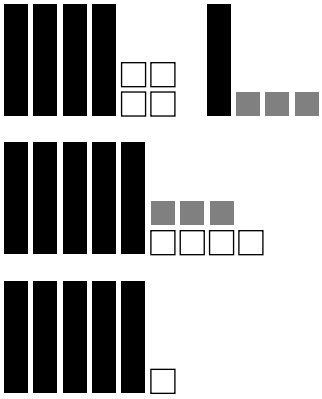
Date: _____

5.3 Adding and Subtracting Polynomials

***MathLinks 9*, pages 190–199**

Key Ideas Review

1. Which equation does the algebra tile model represent? _____



A $(4x - 4) + (x + 3) = 5x - 1$

B $(4x + 4) - (-x + 3) = 5x + 1$

C $(2x - 2) + (3x + 1) = 5x - 1$

D $(2x - 2) - (-3x - 3) = 5x + 1$

2. One word can replace the question marks in the following sentences: The _?_ of a polynomial is found by taking the _?_ of each of the terms. To subtract polynomials, you can add the _?_.

The word is _____.

Check Your Understanding

3. Add the polynomials.

a) $(6y - 4) + (2y + 2)$

b) $(b^2 + 5) + (-2b^2 - 3)$

c) $(-3s^2 + 7s) + (-s^2 - 6)$

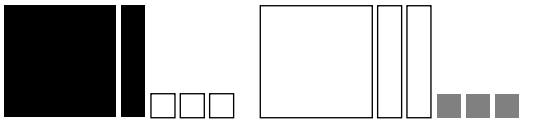
4. Perform the indicated operation. Then, simplify by combining like terms.

a) $(8 + 5d) + (-d - 9)$

b) $(-4m^2 - 4) + (-2m^2 - 1)$

c) $(-6r^2 + 3r - 7) + (5r^2 - 2r - 2)$

5. Which of the statements do the algebra tiles represent? _____



A $(x^2 + x - 3) + (x^2 - 2x + 3)$

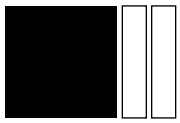
B $(x^2 + x - 3) + (-x^2 - 2x + 3)$

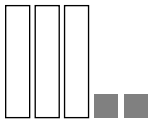
C $(x^2 - x - 3) + (-x^2 - 2x + 3)$

D $(x^2 + x + 3) + (-x^2 - 2x + 3)$

Date: _____

6. Give the opposite of the expression. Express your answer using both diagrams and symbols.

a) 

b) 

7. What is the opposite of each expression?

a) $-3y^2$

b) $6g - 3$

c) $2b^2 - 4b + 7$

d) $-4d^2 - 3d - 6$

e) $-k^2 - 8k + \frac{1}{2}$

8. Change the subtraction operation to adding the opposite. Then, combine like terms.

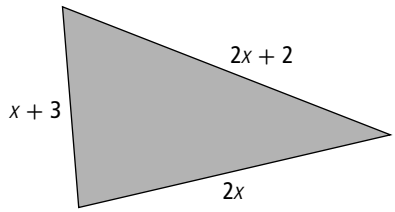
a) $(3r - 5) - (5r + 2)$

b) $(6 - 3f) - (4 - 5f)$

c) $(-4n^2 + 5) - (-n^2 - 9)$

d) $(6a^2 + 2a - 5) - (4a^2 + 5a + 7)$

9. Consider the triangle below.



a) Write the unsimplified expression for the perimeter.

b) Simplify the expression from part a) by combining like terms.

c) If the perimeter of the triangle is 25 cm, calculate the value of x. Verify that your answer is correct.

10. José, Tyler, and Mike split some money they made working on the weekend. They each worked a different number of hours, so they have to split the money fairly. José receives twice the amount that Tyler receives, and Mike receives \$10 less than Tyler. Let x represent the amount that Tyler receives.

a) Write the expression that represents the total amount that they receive.

b) Simplify the expression in part a) by combining like terms.