

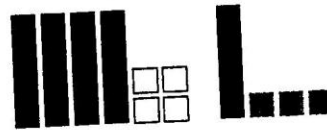
5.3 Adding and Subtracting Polynomials

MathLinks 9, pages 190–199

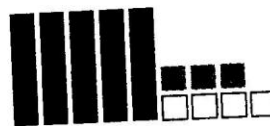
Key Ideas Review

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.

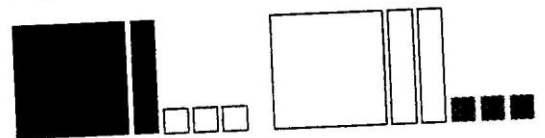
a) $(8 + 5d) + (-d - 9)$

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? _____



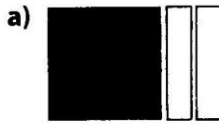
A $(x^2 + x - 3) + (x^2 - 2x + 3)$

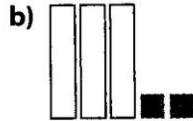
B $(x^2 + x - 3) + (-x^2 - 2x + 3)$

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

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

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





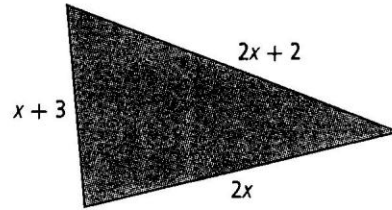
7. What is the opposite of each expression?

- 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.