

CHAPTER 3 Polynomials
3.6 Add and Subtract Polynomials
Subtracting Polynomials

Example:

- a) What is the opposite of $-3g + 9h$?
- b) Simplify: $(2x + 5y) - (7x - 3y)$.
- c) Simplify: $(6p - q + 3r) - (5p + 7q - 2r)$.

Solution:

- a) The opposite of $-3g + 9h$ is $3g - 9h$.
- b) $(2x + 5y) - (7x - 3y) = (2x + 5y) + (-7x + 3y)$
 $= 2x + 5y - 7x + 3y$
 $= 2x - 7x + 5y + 3y$
 $= -5x + 8y$
- c) $(6p - q + 3r) - (5p + 7q - 2r) = (6p - q + 3r) + (-5p - 7q + 2r)$
 $= 6p - q + 3r - 5p - 7q + 2r$
 $= 6p - 5p - q - 7q + 3r + 2r$
 $= p - 8q + 5r$

Practice:

1. What is the opposite of $2x^2 - x - 1$?
2. Simplify: $(6a - b) - (7a - 2b)$.
3. Simplify: $(3r - 5s + 2t) - (2r + s - 2t)$.

Answers:

1. $-2x^2 + x + 1$ 2. $-a + b$ 3. $r - 6s + 4t$