

Algebra I

4-2

Polynomials

The following equation is an example of a: polynomial

$$3x^3y + 5x^2y^2 - 7xy^3$$

Diagram illustrating the components of the polynomial $3x^3y + 5x^2y^2 - 7xy^3$:

- coefficient**: 3, 5, -7
- exponents**: 3, 2, 1 for x; 1, 2, 3 for y
- base**: x, y
- term monomial**: $3x^3y$, $5x^2y^2$, $-7xy^3$

Like terms- Same powers on all the bases.

6	$-4y^3$	$7x^2y^3$
$-7x^2$	$8x^2y^3$	$-9x^3y^2$
$9xy^3$	$-15y^2x^3$	$8x^2$

Simplify- put together like terms.

Copy each polynomial and underline like terms. Then simplify.

1) $3x - 2y - x - 3y$
 $2x - 5y$

Add.

9) $5y - 3$
 $2y + 9$

$(5y - 3) + (2y + 9)$
 $7y + 6$

21-30. In exercises 9-18, subtract the lower polynomial from the upper one.

21) $(5y - 3) - (2y + 9)$
 $5y - 3 - 2y - 9$
 $3y - 12$

Solve.

53) $(2y^2 - 2y + 6) - 2(y^2 - 3y + 5) = 11$

$2y^2 - 2y + 6 - 2y^2 + 6y - 10 = 11$

$4y - 4 = 11$

$4y - 4 + 4 = 11 + 4$

$4y = 15$

$y = \frac{15}{4}$

$\left\{ \frac{15}{4} \right\}$

P 9 14 8
2-56
even