

Write the degree of each polynomial.

1.) $v^2 - 2v + 5$

2

2.) $r^2 + r^3 + r$

3

3.) $2a^2b - 3a^3b^4$

7

Write each polynomial in standard form. Identify the polynomial by the degree and the number of terms

4.) $-4f + f^2 + 7$

$f^2 - 4f + 7$

Quadratic
trinomial

5.) $-7 + 5y$

$5y - 7$

linear
binomial

6.) $4s^2 - 3s + 9 - s^3$

$-s^3 + 4s^2 - 3s + 9$

Cubic
polynomial

Adding Polynomials

Example 1: Add or subtract the monomials. Write your answer in standard form.

a.) $3a^2 + 4a + 2a^2$

$5a^2 + 4a$

Quadratic
Binomial

b.) $7x^2 + 5 - 4x^2 + 12$

$3x^2 + 17$

Quadratic
Binomial

c.) $7m^2 + 2n^2 - 2m^2 + n^2$

$5m^2 + 3n^2$

Quadratic
Binomial

d.) $y^2 + 2y^2 - 4y^2 - y^2$

$-2y^2$

Quadratic
monomial

Example 2: Add the polynomials horizontally. Write your answer in standard form.

a.) $(2x^2 - x + 5) + (x^2 + 3x + 1)$

$$3x^2 + 2x + 6$$

Quadratic
trinomial

b.) $(4m^2 + 7m - 5) + (m^2 - m - 8)$

$$5m^2 + 6m - 13$$

Quadratic
trinomial

c.) $(h^3 - h + 2) + (3h^2 + 5h - 6)$

$$h^3 + 3h^2 + 4h - 4$$

Cubic
polynomial

d.) $(6 - j^2 + 7j) + (2j - 9 + 10j^2)$

$$9j^2 + 9j - 3$$

Quadratic
trinomial

Example 3: Add the polynomials vertically. Write your answer in standard form.

a.) $(3x^2 - 2x + 5) + (x^2 + 4x + 6)$

$$\begin{array}{r} 3x^2 - 2x + 5 \\ + x^2 + 4x + 6 \end{array}$$

$$4x^2 + 2x + 11$$

b.) $(6y^2 - y + 8) + (2y^2 - 8y - 9)$

$$\begin{array}{r} 6y^2 - y + 8 \\ + 2y^2 - 8y - 9 \end{array}$$

$$8y^2 - 9y - 1$$

c.) $(3b^3 - 5b + 1) + (2b^2 - 4b + 4)$

$$\begin{array}{r} 3b^3 + 0b^2 - 5b + 1 \\ + 0b^3 + 2b^2 - 4b + 4 \end{array}$$

$$3b^3 + 2b^2 - 9b + 5$$

d.) $(7 - 6k - 6k^2) + (8k^2 + 19 + 12k)$

$$\begin{array}{r} -6k^2 - 6k + 7 \\ + 8k^2 + 12k + 19 \end{array}$$

$$2k^2 + 6k + 26$$