

Find the sum of the polynomials. When given one variable, write the answer in standard form and name the polynomial by degree and number of terms.

$$1) (\underline{5x^3} - \underline{x} + \underline{2x^2} + \underline{7}) + (\underline{3x^2} + \underline{7} - \underline{4x}) + (\underline{4x^2} - \underline{8} - \underline{x^3})$$

$$SF: 4x^3 + 9x^2 - 5x + 6$$

Cubic Polynomial with 4 terms

$$2) (\underline{2x^2} + \underline{x} - \underline{5}) + (\underline{x} + \underline{x^2} + \underline{6})$$

$$SF: 3x^2 + 2x + 1$$

Quadratic trinomial

$$3) (\underline{-8x^3} + \underline{x} - \underline{9x^2} + \underline{2}) + (\underline{8x^2} - \underline{2x} + \underline{4}) + (\underline{4x^2} - \underline{1} - \underline{3x^3})$$

$$SF: -11x^3 + 3x^2 - x + 5$$

Cubic Polynomial with 4 terms

$$4) (\underline{5x^5y^2} - \underline{3x^5y^5} - \underline{3x^3}) + (\underline{6x^3} + \underline{5x^5y^2})$$

$$10x^5y^2 - 3x^5y^5 + 3x^3$$

Trinomial

Find the difference of the polynomials. When given one variable, write the answer in standard form and name the polynomial by degree and number of terms.

$$5) (-2x^3 + 5x^2 - x + 8) - (-2x^3 + 3x - 4)$$

$$\underline{-2x^3} + \underline{5x^2} - x \text{ (+8)} + \underline{2x^3} - 3x \text{ (+4)}$$

$$SF: 5x^2 - 4x + 12$$

Quadratic trinomial

$$6) (x^2 - 8) - (7x + 4x^2)$$

$$\underline{x^2} \text{ (-8)} - 7x - \underline{4x^2}$$

$$SF: -3x^2 - 7x - 8$$

Quadratic Trinomial

$$7) (3x^2 - 5x + 3) - (2x^2 - x - 4)$$

$$\underline{3x^2} - \underline{5x} \text{ (+3)} - \underline{2x^2} + x \text{ (+4)}$$

$$SF: x^2 - 4x + 7$$

Quadratic trinomial

$$8) (5xy^2 - 6x^2y^4 - 5y^5) - (8x^5y^5 + xy^2 - 3y^5)$$

$$\underline{5xy^2} - \underline{6x^2y^4} - \underline{5y^5} - \underline{8x^5y^5} - xy^2 \text{ (+3y^5)}$$

$$4xy^2 - 6x^2y^4 - 2y^5$$

Trinomial