

# NOTES: SUBTRACTING POLYNOMIALS

QUESTIONS: NOTES:

Subtracting Polynomials:

- Distribute the negative
- Simplify by combining like terms

$$1. (-6k^2 + 3k) - (-5k^2 + 3k - 8k)$$

$$-6k^2 + 3k + 5k^2 - 3k + 8k$$

$$\boxed{8k}$$

Degree = 1

Linear Monomial

$$2. (-12h^2 + h) - 2(-6h^2 + 3h - 4)$$

$$-12h^2 + h + 12h^2 - 6h + 8$$

$$\boxed{-5h + 8}$$

Degree = 1

Linear Binomial

\* Subtract  
each  
term

$$3. \begin{array}{r} 3d^2 + 8d - 2 \\ -(2d^2 - 7d + 6) \\ \hline d^2 + 15d - 8 \end{array}$$

- \* Rewrite
- \* Distribute

$$(3d^2 + 8d - 2) - 2(2d^2 - 7d + 6)$$

$$3d^2 + 8d - 2 - 4d^2 + 14d - 12$$

$$\boxed{d^2 + 15d - 14}$$

Degree = 2

Quadratic Trinomial

Name : Key

Score : \_\_\_\_\_

Teacher : \_\_\_\_\_

Date : \_\_\_\_\_

## Adding and Subtracting Polynomials

Simplify each expression.

$$1) (8h^4 - 4) - (3 + 2h^3 - 5h^4)$$
$$8h^4 - 4 - 3 - 2h^3 + 5h^4$$
$$\boxed{13h^4 - 2h^3 - 7}$$

$$2) (6g^2 + 4) + (7g^2 - 2 + g^5)$$

$$\boxed{g^5 + 13g^2 + 2}$$

$$3) (8 + 9q^2) - (3q^3 - 5 + 4q^2)$$

$$8 + 9q^2 - 3q^3 + 5 - 4q^2$$
$$\boxed{-3q^3 + 5q^2 + 13}$$

$$4) (3y - 4 + 9y^3) + (6y^3 - 2 - 7y^5)$$

$$\boxed{-7y^5 + 15y^3 + 3y - 6}$$

$$5) (3g + 2g^4 - 6) + (5g - 8g^4 + 7g^2)$$

$$\boxed{-6g^4 + 7g^2 + 8g - 6}$$

$$6) (9x + 5x^4) - (7x - 8x^4 + 3)$$

$$9x + 5x^4 - 7x + 8x^4 - 3$$
$$\boxed{13x^4 + 2x - 3}$$

$$7) (5q^4 - 8q^3 - 7) - (6q^3 + 9q^2 - 4)$$

$$5q^4 - 8q^3 - 7 - 6q^3 - 9q^2 + 4$$
$$\boxed{5q^4 - 14q^3 - 9q^2 - 3}$$

$$8) (2x^4 - 4x^3) + (6x^3 + 9x + 7x^4)$$

$$\boxed{9x^4 + 2x^3 + 9x}$$

$$9) (4g^4 + 6 + 9g^2) - (g + 2g^2 - 5)$$

$$4g^4 + 6 + 9g^2 - g - 2g^2 + 5$$
$$\boxed{4g^4 + 7g^2 - g + 11}$$

$$10) (3 + 7y^2 + 8y^4) - (2y - 4y^4 + 6)$$

$$3 + 7y^2 + 8y^4 - 2y + 4y^4 - 6$$
$$\boxed{12y^4 + 7y^2 - 2y - 3}$$

