Name : _____ Score : _____

Teacher : _____ Date : _____

Basic Polynomial Operations

Name each polynomial by its degree and number of terms.

1) $9xy^4k^3 - 8g^3$

2) $dc^2h^5 - 8x^7 + 9b^6q^3$

3) $-9bc + 4s$

4) $9y^7d + 2g + 5h - 4r$

Simplify each expression.

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

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

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

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

Multiply to find each product.

9) $(h^2 + 3)(h^2 + 9)$

10) $(9d^2 + 4d + 2)(8d^2 + 6d + 7)$

11) $(7c^2 + 4c)(5c^2 + 8c)$

12) $(q^2 + 3q)(q^2 + 4q)$

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Basic Polynomial Operations

Name each polynomial by its degree and number of terms.

1) $9xy^4k^3 - 8g^3$

Eighth degree Binomial

2) $dc^2h^5 - 8x^7 + 9b^6q^3$

Ninth degree Trinomial

3) $-9bc + 4s$

Quadratic Binomial

4) $9y^7d + 2g + 5h - 4r$

Eighth degree Polynomial - 4 Terms

Simplify each expression.

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

$6x^4 - 6x^3 + 5x^2 - 11$

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

$12b^4 + 12b^2 + 4b - 3$

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

$9x^6 + 12x^3 + 4x - 12$

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

$-11g^6 - 2g^3 + 4g + 4$

Multiply to find each product.

9) $(h^2 + 3)(h^2 + 9)$

$h^4 + 12h^2 + 27$

10) $(9d^2 + 4d + 2)(8d^2 + 6d + 7)$

$72d^4 + 86d^3 + 103d^2 + 40d + 14$

11) $(7c^2 + 4c)(5c^2 + 8c)$

$35c^4 + 76c^3 + 32c^2$

12) $(q^2 + 3q)(q^2 + 4q)$

$q^4 + 7q^3 + 12q^2$