Algebra 2

Name_____

Assignment

Date_____ Period_____

Simplify each sum.

1) $(4a^2 - 8a^4 + 5) + (5 + 7a^2 - 6a)$

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

Simplify each difference.

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

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

Find each product.

5) $(7m - 5)(2m + 7)$

6) $(4r + 7)(3r^2 + 7r - 2)$

Name each polynomial by degree and number of terms.

7) $-10a^5 - 2a^2$

8) $4x - 3$

Factor each.

9) $x^3 - 4x^2 - 5x + 20 = 0$

10) $x^3 + 2x^2 - 15x = 0$

11) $x^3 - 64 = 0$

12) $x^3 + 4x^2 + 4x = 0$

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Simplify each sum.

1) $\left(4a^2 - 8a^4 + 5\right) + \left(5 + 7a^2 - 6a\right)$

$-8a^4 + 11a^2 - 6a + 10$

2) $\left(7k - 2k^4 + 3\right) + \left(3k^4 + 6 + 8k\right)$

$k^4 + 15k + 9$

Simplify each difference.

3) $\left(n + 2n^3 + 8\right) - \left(5n^4 - n^3 - 4\right)$

$-5n^4 + 3n^3 + n + 12$

4) $\left(x^4 + 2x^2 - 3\right) - \left(4x^4 - 5x^2 - 4\right)$

$-3x^4 + 7x^2 + 1$

Find each product.

5) $\left(7m - 5\right)\left(2m + 7\right)$

$14m^2 + 39m - 35$

6) $\left(4r + 7\right)\left(3r^2 + 7r - 2\right)$

$12r^3 + 49r^2 + 41r - 14$

Name each polynomial by degree and number of terms.

7) $-10a^5 - 2a^2$

quintic binomial

8) $4x - 3$

linear binomial

Factor each.

9) $x^3 - 4x^2 - 5x + 20 = 0$

$(x - 4)(x^2 - 5) = 0$

10) $x^3 + 2x^2 - 15x = 0$

$x(x - 3)(x + 5) = 0$

11) $x^3 - 64 = 0$

$(x - 4)(x^2 + 4x + 16) = 0$

12) $x^3 + 4x^2 + 4x = 0$

$x(x + 2)^2 = 0$