Algebra 1 Name_____

12.1 - 12.4 Review

Period____

Simplify each sum.

1) $(6p - 3p^4 - 4) + (p - 4p^3 - 6p^4)$

2) $(2k^2 + 3 - k^3) + (2k^2 + 6 - 6k^3)$

Simplify each difference.

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

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

Simplify each expression.

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

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

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

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

Factor out the GCF for each polynomial.

9) $3v^2 + 27v + 24 = 0$

10) $2r^2 - 2r = 0$

11) $6x^2 - 30x - 36 = 0$

12) $8n^2 - 24n = 0$

Find each product.

13) $(7b + 2)(b + 3)$

14) $(7a + 2)(8a + 7)$

15) $(3x + 1)(8x + 8)$

16) $(6x + 2)(8x + 1)$

17) $(3m + 1)(3m^2 + 4m - 8)$

18) $(5a + 4)(2a^2 + 4a - 2)$

Solve each equation by factoring.

19) $k^2 + k - 2 = 0$

20) $r^2 - 10r + 16 = 0$

21) $r^2 - 11r + 24 = 0$

22) $n^2 - 4n = 0$

23) $n^2 + 48 = 14n$

24) $x^2 = -40 - 13x$