Math 3H Name_____

1.1 Polynomial Operations

Period____

Simplify each sum.

1) $(4k^2 + 7) + (8k^2 - 7 - 3k^4)$

2) $(6p + 1) + (6 - 7p^2 - 8p)$

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

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

Simplify each difference.

5) $(6 + r^3) - (2r^3 - 5 - 5r)$

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

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

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

Simplify each expression.

9) $(3n + 2n^3 + 4n^4)$ - $(?) = 4n^4 - 2n^3 - 5n$

10) $(?) + (3 - 5n) = 6n^4 - n + 8$

11) $(?) - (3 - 6k + 7k^3) = 7k^4 - 7k^3 + 8k + 3$

12) $(6 - 4n^4 + 7n - 2n^3)$ - $(?) = -3n^4 - 7n^3 + 11$

Find each product.

13) $(b - 6)(7b + 3)$

14) $(8n - 3)(n + 8)$

15) $(4v - 1)(5v + 7)$

16) $(6v + 4)(7v^2 - 3v - 6)$

17) $(8x - 8)(5x^2 - 7x - 6)$

18) $(3x^2 + 6x - 4)(8x^2 + 7x - 8)$

19) $(5n^2 - 6n + 8)(7n^2 - 7n + 8)$

20) The side of a cube is represented by x + 1. Find, in terms of x, the volume of the cube in standard form.

21) Let an interger be represented by x. Find, in terms of x, the product of three consectutive integers starting with x, in standard form.

22) Write a variable expression, in standard form, for the area of a square whose side is x + 8.

23) The length of a rectangular window is 5 feet more than its width, w. The area of the window is 36 square feet. Write an equation that could be used to find the dimensions of the window.

24) A rectangular swimming pool is twice as long as it is wide. A small concrete walkway surrounds the pool. The walkway is a constant 2 feet wide and has an area of 196 square feet. Find the dimensions of the pool. (Honors only)