## Math 3H Name\_\_\_\_\_ © 2016 Kuta Software LLC. All rights reserved. 1.1 Polynomial Operations

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

Period

## 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)