

Write the polynomial in standard form.

1.  $\boxed{5y} + 2 - 6y^2 + \boxed{3y} \quad -6y^2 + 8y + 2$

2.  $k^3 + 3k^5 + k - k^3$

Simplify. Write each answer in standard form.

3.  $(3g^4 + 5g^2 + 5) + (5g^4 - 10g^2 + 11g)$

4.  $(3x^3 + 8x^2 + 2x + 9) - (-4x^3 + 5x - 3)$   
 $+4x^3 - 5x + 3$   
 $\boxed{7x^3 + 8x^2 - 3x + 12}$

5.  $(2x^3 - 4x^2 + 9x - 7) - (x^3 + x^2 - 3x + 1)$

6.  $(6y^2 + 3y + 5) - (2y^2 + 1)$

Simplify each product.

7.  $-2w^2(4w - 10 + 3w^2)$

8.  $(x+3)^2$   
 $(x+3)(x+3)$   
 $x^2 + 3x + 3x + 9$   
 $\boxed{x^2 + 6x + 9}$

9.  $(5x + 2)(3x - 7)$

10.  $(x-2)(4x^2 - 5x + 3)$   
 $4x^3 - 5x^2 + 3x - 8x^2 + 10x - 6$   
 $\boxed{4x^3 - 13x^2 + 13x - 6}$

11.  $(4a - 8)(a - 5)$

12.  $(x - 2)(x^2 - x + 1)$

13.  $(2m^2 + 5)(2m^2 - 5)$

14.  $(x - 4)(x + 4)$

Name the Polynomial based on it's degree and number of terms.

15.  $7x^2 - 9x - 9$  \_\_\_\_\_, \_\_\_\_\_ 18. 9 \_\_\_\_\_, \_\_\_\_\_

16.  $9x^3 + 3x^2$  \_\_\_\_\_, \_\_\_\_\_ 19.  $x^4 - 11$  4<sup>th</sup> Deg., Binomial

17.  $8x$  Linear, monomial 20.  $7x^2 - 9$  \_\_\_\_\_, \_\_\_\_\_