**Simplify the following radicals.**

$1)\sqrt{\frac{192}{100}} $ 2)$ 3\sqrt{-80}$ 3)$ -2i\sqrt{-162}$

**Simplify the following expressions.**

 $4) \left(3-10i\right)-4(2-i)$ 5) $2i(3+5i)(1-5i)$

6)$ \frac{-4i}{2+6i}$ 7) $\frac{2+2i}{4-2i}$

**Simplify using powers of i.**

8)$ 5i^{30}+4i^{9} $ 9)$ i^{200}-3i^{27}-8i^{46} $

 **Multiply the following polynomials.**

$10) \left(3x-1\right)\left(x-5\right)\left(x+5\right) 11) (2a^{2}-6ab+5b^{2})(a^{2}+ab-b^{2})$

**Expand the expressions.**

$12) (c-3)^{4} 13) (x+y)^{5}$

**Add or Subtract. Write the polynomial in standard form. Identify the leading coefficient, degree, and number of terms. Name the polynomial.**

$14) \left(9x^{4}-9\right)+\left(-x^{2}-8+7x\right) 15) \left(1-3x^{2}+8x^{3}\right)-\left(7x^{3}-13x^{2}-1\right)+(-4x^{3}-7)$

Standard Form: Standard Form:

Leading Coefficient: Leading Coefficient:

Degree: Degree:

Name: Name:

**Divide the following polynomials using long division.**

$16) \left(-8x^{4}+12x^{2}-2x-1\right)÷(x+6)$

$17) (2x^{4}+x^{3}-3x+10)÷(x-4) $

**Determine the degree of the following monomials.**

18) $7x^{8}y^{4}z$ 19) 8 20)$-10x^{2}$

$21) $**Write an example of each of the following:**

1. Constant Monomial \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. Quintic Binomial \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. Cubic Polynomial \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_