Quad Prep Unit Review

Date_____ Period____

With each polynomial identify the following information.

1) $-3n$

Number of Terms:

Type: Degree:

Coefficient(s): Constant:

2) $-5n^6 + 10$

Number of Terms:

Type: Degree:

Coefficient(s): Constant:

3) $-x^3 - 9x^2 + 6x - 2$

Number of Terms:

Type: Degree:

Coefficient(s): Constant:

4) $-10p^4$

Number of Terms:

Type: Degree:

Coefficient(s): Constant:

Add or subtract the polynomial expressions.

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

6) $-9x - 9(x - 7)$

7) $-2(1 + 2r) - 10(7 + 5r)$

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

9) $(7v^3 + 6 + 5v) - (5v^3 - 2)$

10) $(8k^3 + 2k^2) + (4k^3 + 5 + 2k^2)$

Factor out the GCF of each expression.

11) $-35b^2 + 28$

12) $18n^5 - 18n^4 + 24n^3$

Find each product.

13) $-(-4 - 4v)$

14) $7p(7p + 2)$

15) $(8a + 5)(7a + 5)$

16) $(a + 1)(3a - 1)$

17) $(7k + 8)(2k^2 + 8k + 6)$

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

Simplify. Your answer should contain only positive exponents.

19) $\dfrac{(n^3)^3}{n^{-4}n^4}$

20) $\dfrac{m}{(m^4m^4)^2}$

21) $\dfrac{xx^{-4}}{\left(x^{-4}\right)^{0}}$

22) $\dfrac{x^{-1}x^{0}\cdot x}{\left(x^{-3}x^{3}\right)^{-2}}$

23) $\dfrac{\left(xx^{-2}\right)^{2}\cdot x^{-1}x^{-2}}{x^{0}x^{3}}$

24) $\dfrac{\left(2v^{3}\right)^{3}}{v^{-4}v^{-3}v^{2}}$

25) $\dfrac{6x^{-2}}{2x^{-3}x^{-\frac{7}{4}}}$

26) $\dfrac{3x^{\frac{2}{3}}\cdot\left(x^{2}\right)^{\frac{5}{3}}\cdot 5x^{0}}{x^{-2}}$

27) $\dfrac{x^{\frac{1}{2}}x^{2}}{\left((9x)^{0}\right)^{\frac{1}{2}}}$

28) $\dfrac{\left(x^{\frac{1}{2}}\right)^{-\frac{1}{2}}\cdot\left(xx^{\frac{2}{3}}\right)^{\frac{3}{4}}}{2x^{-\frac{1}{2}}\cdot 4x^{\frac{3}{4}}}$

Write each expression in exponential form.

29) $\left(\sqrt[3]{10r}\right)^{4}$

30) $\left(\sqrt{6n}\right)^{5}$

Write each expression in radical form.

31) $r^{\frac{5}{6}}$

32) $(2x)^{\frac{3}{2}}$

Simplify the following.

33) i^{35}

34) i^{44}

Rewrite the following as imaginary.

35) $\sqrt{-72}$

36) $\sqrt{-141}$

Add or subtract the following complex numbers.

37) $(2 + 5i) + (-3 + 8i)$

38) $(2 - i) - (-8 + 3i)$

39) $(-4 + 7i) + (6 - 7i)$

40) $(6 + 8i) - (-1 - 2i)$

Multiply the following complex expressions. *Remember that $i^2 = -1$.

41) $(-1 + i)(-7 - 2i)$

42) $(-8 + 8i)^2$

43) $(-1 + 6i)^2$

44) $(-8 + 2i)(-5 + 8i)$