Math 1215 Homework 5

Name................

I Exponent &Scientific Notation

1. $(-3)x^2 \, x^3$

2. $(ab^2)(a^2b^3)$

3. $(-10x^4y^2)(3x^2y)$

4. $\dfrac{36x^9y^5}{18x^3y^2}$

5. $\dfrac{-24m^6n^3}{6m^2n^2}$

6. $\dfrac{12x^5}{4x^{-2}}$

7. $a^2b^{-2}c^0$

Change the following numbers from standard form into scientific notation.

8. 62,000

9. 0.000071

Change the following numbers from scientific notation into standard form.

10. $6.1 * 10^4$

Simplify the following problems using operations with scientific notation, write you answer in both standard form and scientific notation.

11. $(2 * 10^3)(4 * 10^2)$

12. $\dfrac{12.4*10^{-4}}{4*10^2}$

II Polynomials:

13. $\left(2x^2 - 3x + 1\right) + \left(-x^2 + x - 7\right)$

14. $\left(3x^2 - 2x\right) - \left(7x^2 - 2x + 1\right)$

15. $\left(2n^3 + 10\right) - \left(-n^2 + 3n\right)$

16. $\left(x + 4\right)\left(x + 7\right)$

17. $(-2m^2 - 6m + 3) + (-3m^2 + m - 1)$

18. $(9a^2 - 2a + 2) + (5a^2 - 5a + 7)$

19. Rewrite the following polynomial in *standard form*:
$7x^3 - 6x^4 - 3x^2 + 22x^3$

What is the *constant term*, what is the *leading coefficient,* what is the *degree?*