Math 1215 Homework 6 ANSWER KEY
Name Dave

Simplify

1. $(-3)x^2\,x^3 = -3x^5$

2. $(ab^2)(a^2b^3) = a^3b^5$

3. $(-10x^4y^2)(3x^2y)$
$= -30x^6y^3$

4. $\frac{36x^9y^5}{18x^3y^2} = 2x^6y^3$

5. $\frac{-24m^6n^3}{6m^2n^2} = -4m^4n$

6. $\frac{12x^5}{4x^{-2}} = 3x^7$

7. $a^2b^{-2}c^0 = a^2 \cdot \frac{1}{b^2} \cdot 1 = \frac{a^2}{b^2}$

Change the following numbers from standard form into scientific notation.

8. 62,000 $= 6.2 \times 10^4$

9. 0.000071 $= 7.1 \times 10^{-5}$

Change the following numbers from scientific notation into standard form.

10. $6.1 * 10^4 = 61{,}000$

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

11. $(2 * 10^3)(4 * 10^2)$
$= 8 \times 10^5$ scientific notation
$= 800{,}000$ standard form

12. $\frac{12.4*10^{-4}}{4*10^2} = 3.1 \times 10^{-6}$ scientific notation
$= 0.0000031$ standard form

Simplify each expression.

13. $j - 4k + 7 + 2j - 3k$

$3j - 7k + 7$

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

$2x^2 - 3x + 1 - x^2 + x - 7$

$x^2 - 2x - 6$

15. $(3x^2 - 2x) - (7x^2 - 2x + 1)$

$3x^2 - 2x - 7x^2 + 2x - 1$

$-4x^2 - 1$

16. $(2n^3 + 10) - (-n^2 + 3n)$

$2n^3 + 10 + n^2 - 3n$

or, in standard form:

$2n^3 + n^2 - 3n + 10$

distribute

17. $-4x(x + 7)$

$-4x^2 - 28x$

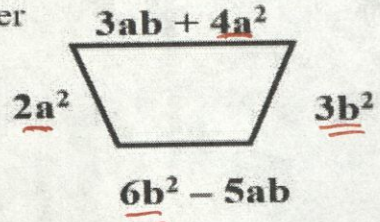
18. $(-2m^2 - 6m + 3) + (-3m^2 + m - 1)$

$-5m^2 - 5m + 2$

19. $(9a^2 - 2a + 2) + (5a^2 - 5a + 7)$

$14a^2 - 7a + 9$

20. Find the perimeter



collect like-terms

$6a^2 + 9b^2 - 2ab$ = Perimeter