Module 6 - Chapter 8 Practice Test

1. Write a term with a base of x, an exponent of 4 and a coefficient of 3.

$3x^4$

2. Write in exponential form: a·a·a·5·5·b·c·c·c·c·c

$25a^3bc^5$

#3-12, Simplify all below:

3) $\frac{x^5}{x^2}$ x^3

4) $(y^2)^5$ y^{10}

5.) $a^4 \cdot a$ a^5

6) $\frac{a^0}{a^7}$ $\frac{1}{a^7}$

7) $\frac{x^2 \cdot x^5 b^9}{x^9 x^0}$ ~~b^9~~ $\frac{b^9}{x^2}$

8) $(3x^{-5}y^2)^3$ $\frac{27y^6}{x^{15}}$

9) $4x(3x^2 + 2x) - 6x^2 - 15x^3$

$12x^3 + 8x^2 - 6x^2 - 15x^3$

$-3x^3 + 2x^2$

10) $\frac{(3x^4y^{-2})^2}{18xy^3}$ $\frac{9x^8y^{-4}}{18xy^3} = \frac{1x^7}{2y^7}$

11) $\frac{3a^4b^5}{a^3} \cdot \frac{2a^3b}{4b^8}$ $\frac{6a^7b^6}{4a^3b^8} = \frac{3a^4}{2b^2}$

12) $\left(\left(\frac{2x^4y^{-1}}{x}\right)^{-3}\right)^2$

$\left(\frac{2x^4y^{-1}}{x}\right)^{-6} = \frac{2^{-6}x^{-24}y^6}{x^{-6}}$

$= \frac{x^6y^6}{2^6x^{24}} = \frac{y^6}{64x^{18}}$

13. Write 4,567,800,000 in scientific notation.

4.57×10^9

14. Write 8.7×10^{-3} as a decimal.

.0087

15. Find the value for the ? in each situation.

a. $3^? = 81$ $? = 4$

b. $(2x^2y^?)(-5x^{-4}y^7) = \frac{-10y^3}{x^2}$ $? = -4$

c. $19^? = 1$ $? = 0$

16. Write 0.00066 in scientific notation.

6.6×10^{-4}

17. Write 4×10^6 as a decimal.

4,000,000

18. The following problem has an incorrect solution. Explain the mistake and find the correct solution.

$(x^3y^4)(x^3y^4) = 2x^3y^4$

x^6y^8

maybe the solver added like terms instead of multiplying (add exponents for like bases)