Problem Set #1.2- Power Raised to a Power

Name:		Class:	
Simplify each expression.			
1.)	$\left(\boldsymbol{X}^{3}\right)^{4}$	2.) $x^3 \cdot x^4$	3.) $(6^8)^4$
4.)	$\left(3^2\cdot7^4\right)^5$	5.) $(a^2bc^3)^4$	6.) $((-4)^2 \cdot (-4)^3)^6$
7.)	$(-p)^5 \div (-p)^3 =$	8.) $pq^3 \cdot p^5q^2 =$	9.) $\frac{(a^4 \cdot a^2)^4}{a^8}$
10.)	$\frac{(6^3 \cdot 6^3)^7}{6^{10}}$	11.) $\frac{(x^8 \cdot x^4)^2}{(x^3)^6}$	12.) $(113^2 \cdot 37 \cdot 51^4)^3$
13.)	$\frac{a^9 \cdot a^2 \cdot a^2}{a^6 \cdot a^3 \cdot a^4}$	14.) (7 ⁹) ²	15.) $\frac{30a^7b^4}{3a^3b}$
16.)	$2x^4y^2\cdot 3x^2y^6$	17.) $\frac{(6^4 \cdot 6^3)^4}{(6^2)^5}$	18.) $(m^5 \cdot m)^3$
19.)	a(a + b) =	20.) $b(a+b) =$	21.) $\frac{a^3}{a^{-8}}$

22.) Tim things that $(a^3)^2 = a^5$. Is he correct? Why or why not?



23.) a.) Express the number 100,000,000,000 in exponential notation.

b.) How many times bigger is your answer from part (a) than 10^5 ?

24.) If -7 is multiplied by itself 23 times, how would you write this in exponential notation?

25.) Would the answer to #24 be positive or negative? Explain how you know.

26.) Evaluate -2^4 and $(-2)^4$. Explain the difference between the two values.

 $-2^4 =$ **Explanation:** $(-2)^4 =$

- 27.) Evaluate $(-5)^2$ and -5^2 . Explain the difference between the two values.
 - $(-5)^2 =$ **Explanation:** $-5^2 =$