

I. Simplify each expression. Place your answer in the boxes.

YOU MUST SHOW WORK ON A SEPARATE SHEET OF PAPER TO RECEIVE CREDIT!

1.) $5^{-2} \cdot 10^2 \cdot x^{-4} y^0 z^6$	2.) $\frac{16}{2n^{-7} \cdot 4n^5}$	3.) $(x^{-4})^5 (3x^3 y^4)^2$	4.) $\left(\frac{m^{-3} n^4}{n^{-2}}\right)^4$
5.) $(4^{-1} \cdot v^3 \cdot 4^3)^{-2}$	6.) $\frac{x^4 y^{-8} z^{-2}}{x^{-1} y^6 z^{-10}}$	7.) $\left(\frac{s^{-4}}{t}\right)^{-2}$	8.) $3^x \cdot 3^{2-x} \cdot 3^3$
9.) $(-2mr)^{-1} (4m^3 r^2)$	10.) $\left(\frac{4x^2 y}{x^2 y^4}\right)^{-3}$	11.) $(2ab^{-2} c^6)^{-4}$	12.) $\frac{(5a^2)(6b^3)}{(2a^3)(25b^{-2})}$
13.) $\left(\frac{p^{-2} q^4 r}{2p^3 q^5}\right)^{-5}$	14.) $(a^3 b^4)^{-2} (a^{-3} b^{-5})^{-4}$	15.) $\left(\frac{12a^3 b^{-2}}{3c^3}\right)^2$	16.) $(3^2 xy^{-3})^0$

II. FIND and FIX the error in each worked out problem below.

17.)

$$\begin{aligned} (3x^2)(-2x^4) &= 3(-2)x^2 \cdot 4 \\ &= -6x^8 \end{aligned}$$

18.)

$$\begin{aligned} 4a^2 \cdot 3a^5 &= (4 + 3)a^2 + 5 \\ &= 7a^7 \end{aligned}$$

III. Explain, why each expression is NOT in SIMPLEST FORM. Then fix it!

19.) $x^5 y^{-2}$ _____

20.) $(2c)^4$ _____

21.) $\frac{5w^2}{10z^6}$ _____

22.) Suppose your allowance is represented by the expression $2.56 \cdot 2^t$ where t = the number of weeks.

a.) How much allowance were you making before the first week ended? _____

b.) How much will your allowance be four weeks from now? _____

c.) How much was your allowance three weeks ago? _____

d.) From a parent's point of view, is the expression above a good plan? Explain your answer.