

I. Simplify each expression. MUST SHOW WORK FOR CREDIT!

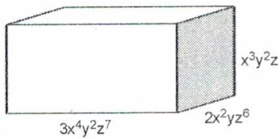
- 1.) $(3d^{-4})(5d^7)$ 2.) $5^5 \cdot 5^{-8}$ 3.) $(x^{-4})^5(3x^3y^4)^2$ 4.) $10^5 \cdot 10^{-6} \cdot 10$
- 5.) $(2ab^{-2}c^6)^{-4}$ 6.) $(a^3b^4)^{-2}(a^{-3}b^{-5})^{-4}$ 7.) $(-2mr)^{-1}(4m^3r^2)$ 8.) $\frac{1}{n^{-7} \cdot n^5}$
- 9.) $r^7 \cdot s^{-3} \cdot r^2 \cdot s^3$ 10.) $(4^{-1} \cdot v^3 \cdot 4^3)^{-2}$ 11.) $3^x \cdot 3^{2-x} \cdot 3^3$ 12.) $(b^{4x})^{3-2x}$

II. Fix the error in each worked out problem below.

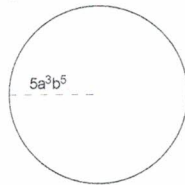
- 13.) $(3x^2)(-2x^4) = 3(-2)x^2 \cdot 4 = -6x^8$
- 14.) $4a^2 \cdot 3a^5 = (4 + 3)a^2 + 5 = 7a^7$
- 15.) $x^6 \cdot x \cdot x^3 = x^6 + 3 = x^9$

III. Find what is asked for each figure below. MUST SHOW WORK!

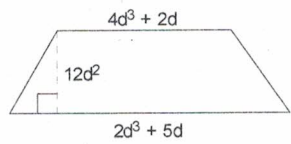
16.) Find the volume:



17.) Find the area:



18.) Find the area:



19.) Find the volume:

