REVIEW OF EXPONENTS AND RADICALS

$x^m x^n = x^{(m+n)}$ $\quad 2^5 \times 2^3 = 2^8$

$(x^m)^n = x^{m \cdot n}$ $\quad (2^8)^{\frac{1}{2}} = 2^4$

$(a \cdot b)^n = a^n \cdot b^n$ $\quad (2x)^5 = 2^5 x^5 = 32x^5$

$x^{-n} = \frac{1}{x^n}$ $\quad 2^{-3} = \frac{1}{2^3} = \frac{1}{8}$

$x^0 = 1$

$x^{\frac{1}{2}} = \sqrt{x}$ $\quad \sqrt{2^8} = (2^8)^{\frac{1}{2}} = 2^4 = 16$

$x^{m/n} = \sqrt[n]{x^m} = (\sqrt[n]{x})^m$ $\quad 9^{3/2} = (\sqrt{9})^3 = 3^3 = 27$

$\left(\frac{a}{b}\right)^n = \frac{a^n}{b^n}$; $\sqrt{\frac{a}{b}} = \frac{\sqrt{a}}{\sqrt{b}}$ $\quad \sqrt{\frac{4}{9}} = \frac{\sqrt{4}}{\sqrt{9}} = \frac{4^{\frac{1}{2}}}{9^{\frac{1}{2}}} = \left(\frac{4}{9}\right)^{\frac{1}{2}} = 2/3$

EXPRESS USING EXPONENTS:

$$\frac{(\sqrt[3]{z^2})(x^3)^4}{y^5\sqrt{t}} = \frac{z^{2/3} \cdot x^{12}}{y^5 \cdot t^{1/2}} = z^{2/3} x^{12} y^{-5} t^{-1/2}$$