

MAT 104 Quiz 24

Friday, November 19, 2004

1. Write in exponential form.

$$\sqrt[3]{x^8 z^3}$$

$$\sqrt[3]{x^8 z^3} = (x^8 z^3)^{1/3}$$

2. Write in radical form.

$$x^{2/7}$$

$$x^{2/7} = \sqrt[7]{x^2}$$

3. Evaluate

$$\left(\frac{27}{8}\right)^{2/3}$$

$$\begin{aligned} \left(\frac{27}{8}\right)^{2/3} &= \left(\frac{3^3}{2^3}\right)^{2/3} \\ &= \frac{(3^3)^{2/3}}{(2^3)^{2/3}} \\ &= \frac{(3^2)}{(2^2)} \end{aligned}$$

4. Simplify

$$\frac{x^{1/3}}{x^{3/4}}$$

$$\frac{x^{1/3}}{x^{3/4}} = x^{1/3-3/4} = x^{-5/12}$$