

Name: SOLUTIONS

Math 1260 Quiz #4 - May 23, 2006

1. Write each number without exponents:

a. $(\frac{4}{9})^{1/2} = \sqrt{2/3}$

b. $(\frac{27}{64})^{-2/3} = (\frac{64}{27})^{2/3} = (\frac{4}{3})^2 = \frac{16}{9}$

c. $(\frac{4}{3})^{-3} = (\frac{3}{4})^3 = \frac{27}{64}$

d. $-(-3)^{-2} = -\frac{1}{(-3)^2} = -\frac{1}{9}$

2. Simplify each expression by removing as many factors as possible from under the radical. Assume all variables represent positive real numbers.

a. $\sqrt[3]{108} = \sqrt[3]{2 \cdot 2 \cdot 4} = 3\sqrt[3]{4}$

b. $2\sqrt{5} - 3\sqrt{20} + 2\sqrt{45} = 2\sqrt{5} - 6\sqrt{5} + 6\sqrt{5} = 2\sqrt{5}$

c. $\sqrt[4]{x^8 y^7 z^{11}} = x^2 y z^2 \sqrt[4]{y^3 z^3}$