Math 135 Fall 2008 **Rational Exponents Worksheet**

Evaluate or simplify each expression. You should have no negative exponents in any answers.

1. $625^{\frac{1}{4}}$
2. $64^{\frac{2}{3}}$
3. $64^{-\frac{2}{3}}$
4. $49^{\frac{3}{2}}$
5. $49^{-\frac{3}{2}}$
6. $0.001^{\frac{1}{3}}$
7. $0.001^{-\frac{4}{3}}$
8. $(-8)^{\frac{5}{3}}$
9. $(-8)^{-\frac{5}{3}}$
10. $(x^2+1)^{\frac{2}{3}}(x^2+1)^{\frac{4}{3}}$
11. $\dfrac{2z^{\frac{3}{2}}x^{\frac{1}{3}}y^{\frac{5}{3}}}{6z^{\frac{1}{2}}y^{-\frac{4}{3}}x^{\frac{1}{3}}}$
12. $\dfrac{(2x^2+1)^{-\frac{6}{5}}(2x^2+1)^{\frac{6}{5}}(x^2+1)^{-\frac{1}{5}}}{(x^2+1)^{\frac{9}{5}}}$