Math 002 P1 **Name:** Solutions

Quiz # 4

October 5, 2014 No electronic devices or interpersonal communication allowed. Show work to get credit.

Simplify the following. Do not leave negative exponents in your answers.

1. $\left(\frac{8x^{-4}}{6x^{-6}}\right)^{-3}$ $= \left(\frac{4x^6}{3x^4}\right)^{-3}$

$= \left(\frac{4x^2}{3}\right)^{-3}$

$= \boxed{\frac{3^3}{4^3x^6} = \frac{27}{64x^6}}$ (either is ok)

2. $\frac{x^{2/3}}{x^{1/5}}$ $= x^{\frac{2}{3}-\frac{1}{5}} = x^{\frac{10}{15}-\frac{3}{15}} = \boxed{x^{7/15}}$

3. $(x^{-1/2} - x^{1/2})^2$ $= (x^{-1/2})^2 - 2(x^{-1/2})(x^{1/2}) + (x^{1/2})^2$

$= x^{-1} - 2x^0 + x^1$

$= \boxed{\frac{1}{x} - 2 + x}$