Name: _____ **Quiz 1**

Math 111 Intro to Math Methods and Applications – Crawford **16 September 2015**

Books, notes (in any form), and calculators are not allowed. *Show all your work.* Good Luck! [Form A1]

1. (5 pts) Simplify and write without exponents.

(a). 2^{-4}

(b). $\dfrac{-4^3}{4^4 \cdot 4^{-1}}$

2. (3 pts) Simplify the following expressions so that only positive exponents remain.

$\dfrac{7^{12} \cdot 7^{-2}}{7^3}$

3. (6 pts) Simplify the following expressions so that only positive exponents remain.

(a). $\left(3x^{-2}y^{2}\right)\cdot\left(2x^{2}y^{-1}\right)$

(b). $\left(\dfrac{a^{-3}b^{2}}{a^{3}b^{4}c}\right)^{-2}$

4. (6 pts) Simplify the following expressions and leave your answers with radicals. [Assume nonnegative variables.]

(a). $\sqrt[4]{32a^{5}b^{8}}$

(b). $\sqrt{32x^{3}y^{6}}\sqrt{2x^{4}y^{4}}$