Math 220 (section AD?) **Quiz 2** **Spring 2013**

Name _____

- You have 15 minutes
- No calculators
- Show sufficient work

1. (4 points) A bacterial culture starts with 200 bacteria and triples in size every 2 hours.

   (a) Find a formula for the number of bacteria as a function of the number of hours since its population was 200.

   (b) At what time is the population equal to 1000 ?

2. (2 points) Given that $g(x) = \ln\left(4 + \sqrt[3]{x}\right)$, find a formula for $g^{-1}(x)$.

3. (2 points) Determine all values of x which satisfy the equation below.

$$e^{3\ln(5x+7)} = 8$$

4. (2 points) Find the domain of the function $f(x) = \dfrac{e^{2x} + 9}{e^{2x} - 100}$