

**Math 111 Quiz #6**  
**May 10, 2011**

Name: \_\_\_\_\_

Show all work and answers on a separate sheet. Simplify your answers as much as possible.

1. Solve the following equations. Give exact answers.

(a) (3 pts.)  $3^{2x} = 4(1.5)^x$

(b) (2 pts.)  $\log(x^2 + 1) = 2$

2. (2 pts.) Suppose you have a bank account that earns 5% each year. How long would it take for your money to double in the account? (Round your answer to the nearest year.)

3. (1 pt.) Find the domain of the function  $f(x) = \ln(x - 11)$ .

4. (2 pts.) Suppose a function  $f(x)$  has a **domain** of  $-2 \leq x \leq 5$ . What is the **domain** of  $f(x - 3) + 4$ ?

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