M303D Practice Test 2

1. If $\log_2 3 = 1.585$ and $\log_2 5 = 2.322$, what is $\log_2 15$?

2. Express the solution of $5^{2x-3} = 7$ in terms of base 10 logs.

3. You pawned your TV for \$50. Three months later you had to pay \$55 to get it back. What was the annual simple interest rate?

4. How long will it take \$1000 to double if it is deposited at 9% annual interest compounded monthly. Express your answer in terms of logs.

5. (Needs a calculator.) Which is better: A. Deposit \$2000 at 16% compounded annually for 10 years, or B. Deposit \$2000 at 15% compounded daily for 10 years?

6. How much should you deposit at 5% compounded quarterly so that you'll have \$10,000 in 7 years?

7. Solve the equation $5^{x^2}5^{-2} = 1$.

8. Sketch a graph of $y = f(x) = 2e^{-x/2}$.

9. Solve the equation $7^{x^2} = 7^{2x+3}$.

10 Find x if $\log_b x = \frac{2}{3}\log_b 27 + 2\log_b 2 - \log_b 3$.

11. Sketch a good graph of $y = -2x^2 + 10x - 8$. Show everything.

12. How much should be deposited in an account bearing 7% annual interest compounded continually, in order to have \$5000 in 10 years?