Classwork 12, MATH 1113 Harrison Chapman Name: _____

8:00 or 9:30

1. Find the number, if possible.

a) $\log_4(1)$

b) $\log_5(5)$

c) $\log_4(0)$

d) $\log_5(5^7)$

e) $4^{\log_4(3)}$

f) $\log_4(1024)$

g) $\log_3(729)$

2. Solve for x. Give a symbolic answer (NOT a decimal).

a) $6^x = 968$

b) $e^{-x/7} = \dfrac{76}{101}$

c) $\log_7(4x + 1) = 3$

3. You invest \$6,350 at 8% per annum compounded continuously. Determine the exact time T (in years) for your investment to be worth \$10,050.

4. Money is invested at interest rate r (a decimal), compounded continuously. Express the exact time required for the money to quadruple, as a function of r.

5. Determine the range and domain of the function $\ln(-x^2 + 8x - 15)$.