

Name _____

Homework 21
Section 4.5

1. (5) Solve the equation $3^x = 7^{x-2}$. Give both the exact solution, and an approximation to the nearest 0.0001.

2. (5) Solve the equation $\log_3(x - 2) + \log_3(x + 2) = \log_3(x + 26)$.

3. (5) A yam which is initially at 40°F is placed in an oven which is at 400°F . The rate of change is known to be -0.24 , when t is measured in hours. How long (to the nearest minute) will it take for the yam to reach a temperature of 150°F ? Recall, Newton's Law of Cooling is $A(t) = C + (A_0 - C)e^{rt}$.

4. (5) An investment offers 5% annual interest, compounded quarterly. If a deposit is made on January 1, 2013, in what year will the investment reach triple its initial value?