

Math 1121

Homework #14

#60, 89a

#60  $e^{2y} = 15$   
 $\ln e^{2y} = \ln 15$

$$2y = \ln 15$$

$$y = \frac{\ln 15}{2}$$

#89a  $h(t) = 37.79 \cdot 1.021^t$

$$2 \times 42.69 = 37.79 \cdot 1.021^t$$

$$85.38 = 37.79 \cdot 1.021^t$$

$$2.259 = 1.021^t$$

$$\ln 2.259 = \ln 1.021^t$$

$$\ln 2.259 = t \ln 1.021$$

$$t = \frac{\ln 2.259}{\ln 1.021} = 37.21 \rightarrow \text{year } 2039$$