

EXP-LOG QUESTIONS1. Find x

$$5e^{2x+1} = 3$$

a, EXACTLY (NO TI-83)

$$\ln(e^{2x+1}) = \ln(3/5)$$

$$2x+1 = \ln(3/5)$$

$$\frac{2x}{2} = \frac{\ln(3/5) - 1}{2}$$

$$x = \frac{\ln(3/5) - 1}{2}$$

b, if know $\ln(3) = 1.099$, $\ln(5) = 1.609$ (NO TI-83, 3 DECIMALS)

$$x = \frac{\ln(3) - \ln(5) - 1}{2} = \frac{1.099 - 1.609 - 1}{2} = \frac{-1.510}{2}$$

$$x = -0.755$$

2. $\ln(1/2) = c \ln(2)$. Find c .

$$\ln(1/2) = -\ln(2)$$

$$c = -1$$

3. $\ln(\sqrt{x}) = a \ln(x)$. Find a .

$$\ln(x^{1/2}) = \frac{1}{2} \ln(x)$$

$$a = \frac{1}{2}$$

4. $\log_3(7) = g \cdot \ln(7)$ Find g .

$$\ln(7) / \ln(3) = g \ln(7)$$

$$g = 1 / \ln(3)$$