Example 1: Solve. Round to the nearest ten-thousandth if necessary.

a. $6^x = 42$

b. $e^x = 20$

c. $2^{3x} = 172$

d. $11^{6x} + 17 = 803$

e. $e^{2x+1} = 8$

Example 3: Solve and check your answer.

a. $36^{\,3p-1} = 6^{\,4p+2}$

b. $10^{\,x+2} = 100^{\,2x-1}$

c. $\log_8 m = \dfrac{1}{3}\log_8 125$

d. $2\log_3 6 - \dfrac{1}{4}\log_3 16 = \log_3 x$

e. $\ln (4 - 2x) = 2$

f. $\dfrac{1}{2} \ln x + \ln 4 = 2$