

Mth 112

Thurs. 11-15-12

Class Notes

Worksheet
Problem 1

$$10 = 17^{8-4x} - 4 = 92$$

$$17^{8-4x} = \frac{96}{10}$$

$$17^{8-4x} = \frac{48}{5}$$

$$\log 17^{8-4x} = \log\left(\frac{48}{5}\right)$$

$$(8-4x)\log 17 = \log\left(\frac{48}{5}\right)$$

$$8-4x = \frac{\log\left(\frac{48}{5}\right)}{\log 17}$$

COB

$$\log_b X = \frac{\log X}{\log b}$$

$$-4x = \log_{17}\left(\frac{48}{5}\right) - 8$$

$$x = - \left[\frac{\log_{17}\left(\frac{48}{5}\right) - 8}{4} \right]$$

$$(23) \quad 6 \cdot 5^{3m-8} - 5 = 35$$

$$\boxed{3.0596}$$

$$6 \cdot 5^{3m-8} = 40$$

$$5^{3m-8} = \frac{20}{3}$$

$$(3m-8) \log 5 = \log\left(\frac{20}{3}\right)$$

$$3m-8 = \frac{\log\left(\frac{20}{3}\right)}{\log 5}$$

$$\frac{3m}{3} = \frac{(.82397)}{(.69897)} + 8$$

$$\boxed{m \approx 3.0596}$$

$$\textcircled{17} \quad 10 \cdot 10^{3-10x} + 2 = 91$$

$$10^{3-10x} = \frac{89}{10}$$

$$(3-10x) \log 10 = \log 89 - \log 10$$

$$3-10x = \log 89 - 1$$

$$-10x = \log 89 - 4$$

$$x = \frac{(1.9494) - 4}{-10}$$

$$x = .20506099$$

$$x = .2051$$