

5.3 day 3 hw

Tuesday, January 14, 2014
11:26 AM

pg. 364 # 29-31, 37, 62-70 Even, 99, 102

$$29. \log_{10} 0.01 = \log_{10} \frac{1}{100} = -2$$

$$30. \log_{10} 100 = 2$$

$$31. \log_3 27 = 3$$

$$37. \log_5 \sqrt[3]{5} = \frac{1}{3}$$

$$62. \log_b b = 1$$

$b > 0$

$$64. \log_8 x = \frac{1}{3}$$

$$8^{\frac{1}{3}} = x$$

$$x = 2$$

$$66. \log_{49} \frac{1}{7} = y$$

$$49^y = \frac{1}{7}$$

$$7^{2y} = 7^{-1}$$

$$y = -\frac{1}{2}$$

$$68. \log_b 4 = \frac{2}{3}$$

$$(b^{2/3})^{3/2} = (4)^{3/2}$$

$$b = 8$$

$$70. \log_{25} x = -3/2$$

$$25^{-3/2} = x$$

$$x = \frac{1}{125}$$

$$99. \quad f(x) = \log_5 x$$

$$f^{-1}(x) = 5^x$$

$$102. \quad f(x) = 2\log_2(x-5)$$

$$y = 2\log_2(x-5)$$

$$x = 2\log_2(y-5)$$

$$\frac{x}{2} = \log_2(y-5)$$

$$2^{x/2} = y-5$$

$$f^{-1}(x) = 2^{x/2} + 5$$