C12 - 8.1 - $\log_b a = ?$ Definition HW

Evaluate. Think of what power must you raise the base to in order to equal the "thing you are logging".

$\log_2 8 = 3$ $\qquad$ $\log_2 16 =$ $\qquad$ $\log_3 9 =$ $\qquad$ $\log_2 1024 =$

$\log_2 4 =$ $\qquad$ $\log_2 64 =$ $\qquad$ $\log_2 32 =$ $\qquad$ $\log_3 27 =$

$\log_4 16 =$ $\qquad$ $\log_1 49 =$ $\qquad$ $\log_{10} 100 =$ $\qquad$ $-\log_2 16 =$

$\log_5 0 =$ $\qquad$ $\log_0 3 =$ $\qquad$ $\log_7 1 =$

$\qquad\qquad\qquad\qquad\qquad\qquad\qquad\qquad$ $\log_4 2 =$ $\qquad$ $\log_2 \left(\dfrac{1}{4}\right) =$

$\log_{\frac{1}{4}} \dfrac{1}{16} =$ $\qquad$ $\log_{\frac{1}{2}} 8 =$

Evaluate. Think of what power must you raise the base to in order to equal the "thing you are logging".

$\log_3 3^2 =$ $\qquad$ $\log_2 2^4 =$ $\qquad$ $\log_4 4^3 =$ $\qquad$ $\log_5 5^x =$

$\log_5 5^{78} =$ $\qquad$ $\log_3 3^{\frac{1}{2}} =$ $\qquad$ $\log_a a^2 =$ $\qquad$ $\log_x x^5 =$

Change the base of the "thing you are logging" to be the same as the base of the log, and evaluate as above.

$\log_2 4 =$ $\qquad$ $\log_3 27 =$ $\qquad$ $\log_5 125 =$ $\qquad$ $\log_6 36 =$

$\log_2 16 =$ $\qquad$ $\log_8 512 =$ $\qquad$ $\log_5 \sqrt[3]{5} =$ $\qquad$ $\log_6 \dfrac{1}{6} =$

Use your calculator to evaluate.

$\log 7 =$ $\qquad$ $\log 0.05 =$ $\qquad$ $log 80 =$ $\qquad$ $log 0 =$

$\log(-2) =$

Evaluate

$\log_a a =$ $\qquad$ $\log_x 1 =$ $\qquad$ $\log_{2a} 4a^2 =$ $\qquad$ $\log_b b^x =$

$\log_{2x} 8x^3 =$ $\qquad$ $\log_e e^2 =$ $\qquad$ $ln\ e^2 =$

Evaluate

$log\sqrt{10} =$ $\qquad$ $log 1 =$ $\qquad$ $\log 1000 =$ $\qquad$ $log 0.1 =$

$\log_{100} 10\ 000 =$

C12 - 8.1 - $log_b a = c$ in Exp/Log Form HW

Express in exponential form

$\log_2 8 = 3$ $\log_5 25 = 2$ $\log_3 27 = 3$ $\log_a b = c$

$\log_6 1 = 0$ $\log_2\left(\dfrac{1}{2}\right) = -1$ $\log_{10} 1000 = 3$ $\log_4 2 = \dfrac{1}{2}$

$\log_{\frac{1}{4}}\left(\dfrac{1}{16}\right) = 2$ $\log_{\frac{1}{3}} 9 = -2$ $\log_7(x + 2) = y$ $\log 100 = 2$

$\log_4 1 = 0$ $1 = \log_5 5$ $\log_{64} 16 = \dfrac{2}{3}$ $q = \log_x z$

$\log_2 4 + 2 = 4$

Express in logarithmic form

$2^3 = 8$ $5^2 = 25$ $64 = 8^2$ $8^{\frac{1}{3}} = 2$

$2^6 = 64$ $10^{-2} = 0.01$ $a = b^c$ $6^{-2} = \dfrac{1}{36}$

$1000 = 10^3$ $4^{-2} = \dfrac{1}{16}$ $\dfrac{1}{125} = 5^{-3}$ $x^y = z$

$18^0 = 1$ $4^1 = 4$ $\left(\dfrac{1}{5}\right)^2 = \dfrac{1}{25}$

C12 - 8.1 - $\log_b x = c$, $\log_x a = c$ HW

Find x

$\log_2(x) = 3$	$\log_4 x = 3$	$\log_5 x = 2$	$\log_4 x = \dfrac{1}{2}$
$\log_5 x = 0$	$\log_5 x = -2$	$\log_3 x = -2$	$\log_{\sqrt{2}} x = 4$
$\log_2(x + 2) = 2$	$\log_3(x - 5) = 2$	$\log_{10}(x - 50) = 2$	$\log_5(20 + x) = 2$
$\log_5(x^2 + 50) = 3$	$\log_3(44 - x) = 4$	$\log_3(5x + 7) = 2$	$\log_5 2x = -5$
$\log_x(8) = 3$	$\log_x(144) = 2$	$\log_x(81) = 2$	$\log_x 5 = 1$
$\log_x 5 = 3$	$\log_x 125 = 3$	$\log_x \dfrac{1}{16} = 4$	$\log_x(64) = 3$
$\log_x 9 = \dfrac{1}{2}$	$\log_x 8 = \dfrac{2}{3}$	$\log_x 27 = \dfrac{3}{2}$	$\log_x \sqrt{27} = \dfrac{3}{2}$
$\log_x 4 = \dfrac{2}{3}$	$\log_x \dfrac{27}{8} = \dfrac{3}{2}$	$\log_x \dfrac{64}{27} = \dfrac{3}{2}$	

C12 - 8.1 - $\log_b a = x$ and Factoring HW

Solve

$\log_4(16) = x$

$\log_8 16 = x$

$\log_2 64 = x$

$\log_2(8) = x$

$\log_{10} 100 = x$

$\log_7(343) = x$

$\log_4 \dfrac{1}{8} = x$

$\log_{\frac{1}{5}} 125 = x$

$\log_{81} 3 = x$

$\log_{16} 8 = x$

$\log_{\frac{1}{2}} 16 = x$

$\log_{\frac{1}{2}} 1 = x$

$\log_{\frac{1}{3}} \dfrac{1}{9} = x$

$\log_{\frac{1}{9}} \dfrac{1}{3} = x$

$\log_{\sqrt{2}} 4 = x$

$\log_2 \sqrt[4]{8} = x$

$\log_{2x} 16 = 2$

$\log_{x+1} 9 = 2$

$\log_{x+2} 1 = 2$

$\log_{x-1} 4 = 2$

$\log_{x+2} 9 = 2$