Name : _____ Score : _____

Logarithmic & Exponential Form

Express each equation in logarithmic form.

1) $6^m = 36$	2) $x^{\frac{1}{2}} = 5$
3) $9^5 = w$	4) $4^{-k} = \frac{1}{16}$
5) $5^b = 125$	6) $u^3 = 64$
7) $8^{\frac{1}{3}} = s$	8) $5^2 = r$

Express each equation in exponential form.

9) $\log_3 27 = n$	10) $\log_a \left(\frac{1}{32}\right) = -2$
11) $\log_6 z = 3$	12) $\log_{25} m = \frac{1}{2}$
13) $\log_5 \left(\frac{1}{25}\right) = -y$	14) $\log_x 100 = 2$
15) $\log_{12} 144 = s$	16) $\log_{36} p = \frac{1}{2}$

Name : _____ Score : _____

Answer key

Express each equation in logarithmic form.

1) $6^m = 36$ **$\log_6 36 = m$**	2) $x^{\frac{1}{2}} = 5$ **$\log_x 5 = \frac{1}{2}$**
3) $9^5 = w$ **$\log_9 w = 5$**	4) $4^{-k} = \frac{1}{16}$ **$\log_4 \left(\frac{1}{16}\right) = -k$**
5) $5^b = 125$ **$\log_5 125 = b$**	6) $u^3 = 64$ **$\log_u 64 = 3$**
7) $8^{\frac{1}{3}} = s$ **$\log_8 s = \frac{1}{3}$**	8) $5^2 = r$ **$\log_5 r = 2$**

Express each equation in exponential form.

9) $\log_3 27 = n$ **$3^n = 27$**	10) $\log_a \left(\frac{1}{32}\right) = -2$ **$a^{-2} = \frac{1}{32}$**
11) $\log_6 z = 3$ **$6^3 = z$**	12) $\log_{25} m = \frac{1}{2}$ **$25^{\frac{1}{2}} = m$**
13) $\log_5 \left(\frac{1}{25}\right) = -y$ **$5^{-y} = \frac{1}{25}$**	14) $\log_x 100 = 2$ **$x^2 = 100$**
15) $\log_{12} 144 = s$ **$12^s = 144$**	16) $\log_{36} p = \frac{1}{2}$ **$36^{\frac{1}{2}} = p$**