

Rewriting and Evaluating Logarithms Practice

Name _____

Date _____

Express in exponential form.

1. $\log_7 2401 = 4$ $7^4 = 2401$	2. $\log_2 64 = 6$	3. $\log_6 216 = 3$
4. $\log_7 49 = 2$	5. $\log_5 \frac{1}{25} = -2$	6. $\log_4 8 = \frac{3}{2}$
7. $\log_{16} 4 = \frac{2}{4}$	8. $\log_{\frac{1}{2}} 8 = -3$ $\frac{1}{2}^{-3} = 8$	9. $\log_{\frac{1}{3}} \frac{1}{9} = 2$

Express in logarithmic form.

1. $10^2 = 100$ $\log_{10} 100 = 2$	2. $3^5 = 243$	3. $9^3 = 729$
4. $8^{\frac{2}{3}} = 4$	5. $5^{-2} = \frac{1}{25}$ $\log_5 \frac{1}{25} = -2$	6. $7^3 = 343$
7. $(\frac{1}{2})^{-3} = 8$	8. $8^2 = 64$	1. $9^{-3} = \frac{1}{729}$

Evaluate the logarithmic functions (Use the properties of logarithms to find x)

1. $\log_7 x = 4$	2. $\log_x 1024 = 5$ $x^5 = 1024$ $x = 4$	3. $\log_5 625 = x$ $\frac{\log 625}{\log 5} = 4$
4. $\log_3 \frac{1}{243} = x$ $3^x = \frac{1}{243}$ $\frac{\log \frac{1}{243}}{\log 3} = -5$	5. $\log_x 2 = \frac{1}{3}$	6. $\log_4 x = 5$
7. $\log_{\frac{1}{2}} 16 = x$	8. $\log_9 x = \frac{3}{2}$	9. $\log_x 4 = \frac{2}{3}$
10. $\log_x 216 = 3$	11. $\log_6 x = -4$ $6^{-4} = x$ $\left(\frac{1}{1296}\right)$ 0.00077	12. $\log_{\frac{1}{2}} \frac{1}{4} = x$
13. $\log_5 \frac{1}{625} = x$	14. $\log_{16} x = \frac{1}{4}$	15. $\log_x \frac{1}{32} = -5$
16. $\log_{\frac{1}{4}} 64 = x$	17. $\log_x 2 = \frac{1}{4}$	18. $\log_3 x = 0$