

Algebra 2  
5.6 More Practice Your Skills

Name: \_\_\_\_\_  
Period: \_\_\_\_\_

(No calc!) Rewrite each logarithmic equation in exponential form. Then solve for  $x$ .

1. $\log_3 \frac{1}{81} = x$	2. $\log_x \sqrt[4]{12} = \frac{1}{4}$	3. $x = \log_4 32$	4. $\log x = 1$
5. $3 = \log_x 125$	6. $\log_{20} x = 1$	7. $\log_{\frac{2}{5}} \frac{25}{4} = x$	8. $-\frac{5}{3} = \log_x \frac{1024}{243}$

(No calc!) Find the exact value of each logarithm. Write your answer as an integer or a simplified fraction.

9. $\log_3 81$	10. $\log_5 \sqrt{5}$	11. $\log_3 \frac{1}{3}$	12. $\log_2 \frac{1}{32}$
13. $\log_8 4$	14. $\log 1,000,000,000$	15. $\log_{\frac{1}{2}} \frac{1}{32}$	16. $\log_9 \frac{2}{3}$

(With calc!) Use the change of base property to solve. Round to 3 decimal places.

17. $\log_5 120 = x$	18. $\log_3 0.9 = x$	19. $4^x = 99$	20. $6^x = 729$
21. $7^x = 4.88$	22. $12^x = 5.75$	23. $\log_{2.8} 7 = x$	24. $8(0.95)^x = 2$

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