Algebra 2 S2 Name: _____ Block: _____

Converting Logs and Exponentials

Convert the exponential to a log. (a = 1)

1. $4^5 = 1024$
2. $6^3 = 216$
3. $64^{\frac{4}{3}} = 256$
4. $3^{2x} = 71$
5. $2^3 = 8$
6. $9^{7x-1} = 31$
7. $5^0 = 1$
8. $12^{3x-4} = 221$

Convert the exponential to a log. (a ≠ 1)

9. $5 * 11^3 = 6655$
10. $2 * 18^2 = 648$
11. $8 * 4^4 = 1024$
12. $9 * 3^{-3} = \frac{1}{3}$
13. $5 * \left(\frac{1}{5}\right)^3 = 625$
14. $3 * 17^2 = 867$
15. $4 * 8^3 = 2048$
16. $12 * 14^{2x-1} = 1728$

Convert the log to an exponential.

17. $log_6 36 = 2$
18. $log_{289} 17 = \frac{1}{2}$
19. $log_{14} \frac{1}{196} = -2$
20. $log_3 81 = 4$
21. $log_u \frac{15}{16} = v$
22. $log_v u = 4$
23. $log_{\frac{7}{4}} x = y$
24. $log_2 v = u$