

Log Equations

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| 1. $\log_3 27 = x$ $x = 3$ | 20. $\frac{1}{2} \log(x-1) = \log 5$ $x = 26$ |
| 2. $\log_6 n = 2$ $n = 36$ | 21. $\frac{1}{3} \log x + \frac{2}{3} \log x = \log 8$ $x = 8$ |
| 3. $\log_x 81 = 3$ $x = 3^{\frac{4}{3}}$ | 22. $\log_6(x+3) + \log_6(x-2) = 1$ $x = 3$ |
| 4. $\log_x 64 = 2$ $x = 8$ | 24. $2 \log(x+5) = \log 4$ $x = -3$ |
| 5. $\log_3(x+1) = 2$ $x = 8$ | 25. $3 \log(n-2) = \log 8$ $n = 4$ |
| 6. $\log_5(2m+3) = -1$ $m = -\frac{7}{5}$ | 26. $\log x + \log 16 = \log 48$ $x = 3$ |
| 7. $\log 65 + \log 3 = \log n$ $n = 195$ | 27. $[\log 3 + \log x] - \log 5 = \log 2$ $x = \frac{10}{3}$ |
| 8. $\log(2x-1) + \log(x+1) = \log 2$ $x = 1$ | 28. $3 \log_4 x - \log_4 x = 2$ $x = 4$ |
| 9. $\log(n+1) + \log 5 = \log 30$ $n = 5$ | 29. $\log N = \frac{1}{2}[\log 3 - \log 15 - \log 7] - \frac{1}{3} \log 6$ $N = 0.0930$ |
| 10. $\log_2(n+2) + \log_2 n = \log_2 3$ $n = 1$ | 30. $\log_6 x + \log_6 4 = 2$ $x = 9$ |
| 11. $\log_2 5 + \log_2 N = 3$ $N = \frac{8}{5}$ | 31. $\log N = \log_3 6 + \log_4 12 - \log_2 9$ $N = 1.2885$ |
| 12. $\log_2 k + \log_2(k-2) = 3$ $k = 4$ | 32. $\log_3(x^3-1) - \log_3(x-1) = 1$ $x = -2, x = 1$ |
| 13. $\log 3 + \log(4-5x) + \log 2 = 0$ $x = \frac{23}{30}$ | |
| | 33. $\log_5 N = \frac{1}{4}[\log_5 5 - \log_5 3] + \frac{1}{3}[\log_5 2 + \log_5 7]$ $N = 2.7384$ |
| 14. $\log 12 + \log(x+5) = \log(x+5)^2$ $x = 7$ | 34. $\log_3 5 = \log_2 N$ $N = 2.7605$ |
| 15. $\log n - \log(n-1) = \log 3$ $n = \frac{3}{2}$ | |
| 16. $\log(a+1) - \log a = \log 6$ $a = \frac{1}{5}$ | |
| 17. $\log_2 32 - \log_2 x = 1$ $x = 16$ | |
| 18. $\log a - \log(a-1) = 2$ $a = \frac{100}{99}$ | |
| 19. $\log_3 5 - \log_3(x+1) = 0$ $x = 4$ | |