

LOG & EXPONENTIAL FUNCTION

Find each logarithm to four decimal places.

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|--------------------------|-------------------------------|------------------------------|-------------------------------|
| 1. $\log 5.92$
0.7723 | 2. $\log 599,000$
5.7774 | 3. $\log 0.135$
-0.8697 | 4. $\log 0.000093$
-4.0315 |
| 5. $\ln 256$
5.5452 | 6. $\ln 1,250,000$
14.0387 | 4. $\ln 0.000093$
-9.2829 | 8. $\ln 0.0777$
-2.5549 |

Find x to four decimal places.

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|-----------------------------------|-----------------------------------|-------------------------------|
| 9. $\log x = 3.9263$
8439.1751 | 10. $\log x = 0.0149$
1.0349 | 11. antilog -0.2236
0.5976 |
| 12. $\ln x = 1.2004$
3.3214 | 13. $\ln x = 9.0663$
8658.5279 | 14. antiln -1.3252
0.2657 |

Evaluate each answer to four decimal places.

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|---|---|---|
| 15. $\log 2 + \log 9$
1.2553 | 16. $8(\log 8 - \log 5)$
1.6330 | 17. $\frac{\log 4}{\log 6}$
0.7737 |
| 18. $\frac{5(\log 12)}{\log 9}$
5.6546 | 19. $\frac{\ln 5 + \ln 19}{\ln 13}$
1.7754 | 20. $\frac{\ln 11}{\ln 32 - \ln 27}$
14.1136 |

Solve and check.

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|--------------------------------------|---|----------------------------------|------------------------------------|
| 21. $2^x = 8$
3 | 22. $3^x = 9$
2 | 23. $5^x = 125$
3 | 24. $4^x = 64$
3 |
| 25. $4^x = \frac{1}{16}$
-2 | 26. $3^x = \frac{1}{27}$
-3 | 27. $2^x = \frac{1}{2}$
-1 | 28. $3^x = \frac{1}{9}$
-2 |
| 29. $32 = 4^x$
2.5 | 30. $125 = 25^x$
1.5 | 31. $128 = 4^x$
3.5 | 32. $27 = 9^x$
1.5 |
| 33. $3^{3x-1} = 9^{x-3}$
-5 | 34. $4^{3x+1} = 16^{x-1}$
-3 | 35. $5^{2x-2} = 25^{2x+5}$
-6 | 36. $3^{3x-2} = 27^{3x+2}$
-4/3 |
| 37. $2^{3x+1} = 4^x$
-1 | 38. $3^{4x-2} = 27^x$
2 | 39. $9^{2x+1} = 27^{x+2}$
4 | 40. $4^{3x-1} = 8^{x+2}$
8/3 |
| 41. $100^{5x+2} = 1000^{4x+6}$
-7 | 42. $1000^{4x} = 10,000^{6x+4}$
-4/3 | 43. $100^x = 0.001$
-1.5 | 44. $1000^x = 0.000001$
-2 |