

# 对数运算测试题

1.  $\frac{\log_3(2 \times 5)}{\frac{\log(2^3) 10}{\log(2^3)^{(1+2)}}} = \underline{\hspace{2cm}}$
2.  $\frac{\frac{\log_2 e^3}{\lg 10}}{\ln(3^{\log_3 2(2+1)}) - \ln(2+1)} = \underline{\hspace{2cm}}$
3.  $\frac{\log_{(2^3)} 125}{\log_{(2^3)} \left(\frac{5}{2}\right) + \log_{(2^3)} 2} = \underline{\hspace{2cm}}$
4.  $\frac{\log_3(5^{\log_5 625}(3+3)) - \log_3(3+3)}{\frac{\log_2 5}{\log_2 3}} = \underline{\hspace{2cm}}$
5.  $\frac{\log(\log_2 2 + \log_2 2) \frac{256}{4}}{\frac{\log(2 \times 2)^4}{\log(2 \times 2)^2}} = \underline{\hspace{2cm}}$
6.  $\frac{\frac{1}{\log(e+3)^5}}{\frac{\log(1+1)^e}{\log(1+1)^5}} = \underline{\hspace{2cm}}$
7.  $\log_5 \left( \frac{\log_5 5}{2 \times 3} \times 3 \right) - \log_5 3 + \log_5 (2 \times 3 \times 2) - \log_5 2 = \underline{\hspace{2cm}}$
8.  $\frac{\frac{1}{\log(3^{\log_3 81})^5}}{\frac{\log(2^2)^3}{\log(2^2)^5}} = \underline{\hspace{2cm}}$
9.  $\log_4 \left( 4 \times \frac{1}{3} (2 + 3) \right) - \log_4 (2 + 3) - \log_4 \log_3 3^{\frac{1}{3}} = \underline{\hspace{2cm}}$
10.  $\frac{\log_5 \left( 3^{\log_3 4 \times \frac{1}{3}} \right) - \log_5 \left( \frac{1}{3} \right)}{\log_5 (1+3)} = \underline{\hspace{2cm}}$
11.  $\frac{2^{\log_2 1}}{\log_{10000} \left( \frac{e^{\ln 10}}{3 \times 2} \right) + \log_{10000} (3 \times 2)} = \underline{\hspace{2cm}}$
12.  $\frac{\log_2 \left( \frac{\frac{9}{4}}{2 \times 10^{\lg 3}} \right)}{\log_2 3} + \log_3 (2 \times 10^{\lg 3}) = \underline{\hspace{2cm}}$
13.  $\frac{\log_3 \left( 2 \left( \log_2 \left( \frac{2}{2 \times 2} \right) + \log_2 (2 \times 2) \right) \right)}{\log_3 2} = \underline{\hspace{2cm}}$
14.  $\frac{\ln 5^{\log_5 \left( 10 \left( \lg 2 \lg 5 + \lg^2 2 + \lg 5 \right) \right)}}{\ln (5^{\log_5 3} + 7)} = \underline{\hspace{2cm}}$
15.  $\ln \left( e^{\frac{12}{2}} \log_3 10^{\lg 9} \right) - \ln \left( \frac{\log_3 10^{\lg 9}}{\log_3 3} \right) = \underline{\hspace{2cm}}$

16.  $\frac{\frac{1}{\log_{\frac{\log_3 3}{\log_3 3}}(3(1+2)^3)^3}}{\log_3 3} - \log_3 (1+2)^3 = \underline{\hspace{2cm}}$
17.  $\frac{3^{\log_3 1}}{5} \times \frac{1}{2} \log_5 \left( (3^{\log_3 125})^{3^{\log_3 5}} \right)^2 = \underline{\hspace{2cm}}$
18.  $\frac{\frac{1}{\log_{27} (1+1)}}{\frac{\log_{(2 \times 2)^3} 3}{\log_{(2 \times 2)^{(1+1)}}}} = \underline{\hspace{2cm}}$
19.  $(1+2) \frac{\log_{(3^2)} (5^{\log_5 27})^{\frac{1}{3}}}{\log_{(3^2)} 3} = \underline{\hspace{2cm}}$
20.  $\frac{1}{\log_{(e^{\ln 125})} (5^{\log_5 16}) - \log_{(e^{\ln 125})} \log_5 16} = \underline{\hspace{2cm}}$
21.  $\log_3 \left( \frac{e^{\ln 9}}{\log_3 9} \right) + \frac{\log_{(1+1)} \log_3 9}{\log_{(1+1)} 3} = \underline{\hspace{2cm}}$
22.  $\frac{1}{\log_{\left( \log_3 \left( 3e^3 \times \frac{1}{3} \right) - \log_3 \left( \frac{1}{3} \right) \right)} e} = \underline{\hspace{2cm}}$
23.  $\frac{\lg 1000}{\frac{\ln \left( 5^{\log_5 10 \times \frac{1}{2}} \right) - \ln \left( \frac{1}{2} \right)}{\frac{1}{2} \ln 10^2}} = \underline{\hspace{2cm}}$
24.  $\log_{(5^{\log_5 5})} \left( \frac{125}{2 \times 3} \right) + \log_{(5^{\log_5 5})} (2 \times 3) = \underline{\hspace{2cm}}$
25.  $\ln \left( e^3 \frac{1}{\log_9 2} e^2 \right) - \ln e^2 - \ln \log_{(10^{\lg 2})} 9 = \underline{\hspace{2cm}}$
26.  $\frac{\log_{(1+1)} \left( 16 \left( \lg 2 \lg 5 + \lg^2 2 + \frac{1}{\log_5 10} \right) \right)}{\log_{(1+1)} 4} = \underline{\hspace{2cm}}$
27.  $\log_{(10^{\lg 3})} ((3+6)(3+3)) - \log_{(10^{\lg 3})} (3+3) = \underline{\hspace{2cm}}$
28.  $\frac{\log_7 100}{\log_{(2^{\log_2 7})} (10 \log_2 8) - \log_{(2^{\log_2 7})} \log_2 8} = \underline{\hspace{2cm}}$
29.  $\lg \left( 1000 \log_{(\frac{12}{4})} 9(3+3) \right) - \lg (3+3) - \lg \log_{(\frac{12}{4})} 9 = \underline{\hspace{2cm}}$
30.  $\frac{\log_{(5^{\log_5 3})} e^{\frac{1}{5} \log_2 4^5}}{\log_{(e^{\ln 3})} e} = \underline{\hspace{2cm}}$
31.  $\frac{1}{5} \left( \ln \left( \frac{(e^3)^{5^{\log_5 5}}}{e^1} \right) + \ln e^1 \right) = \underline{\hspace{2cm}}$
32.  $\frac{\frac{\log_6 e^3}{\log_6 5^{\log_5 10}}}{\frac{\log_{(1+1)} e}{\log_{(1+1)} 10}} = \underline{\hspace{2cm}}$
33.  $\log_{(\frac{\lg 5}{\lg 5} + 1)} (4(3+3)) - \log_{(\frac{\lg 5}{\lg 5} + 1)} (3+3) = \underline{\hspace{2cm}}$
34.  $\frac{1}{5} \log_5 \left( \frac{2500}{3 \times 3^{\log_3 2}} \right)^5 + \log_5 (3 \times 3^{\log_3 2}) = \underline{\hspace{2cm}}$

35.  $\log_{(\log_5 5)} \left( \frac{\frac{50}{\log_2 2 + \log_2 2}}{\log_2 9} \right) + \log_{(\log_5 5)} \log_2 9 = \underline{\hspace{2cm}}$
36.  $\log_{\left(\frac{40}{2}\right)} \left( (850 + 150) \times \frac{1}{2} \right) - \log_{\left(\frac{40}{2}\right)} \left( \frac{1}{2} \right) = \underline{\hspace{2cm}}$
37.  $\frac{\frac{\log(3^2)^8}{4 \log(3^2)^{\frac{1}{4}} (4+1)^{\frac{1}{4}}}}{5 \log_5 2^{\frac{1}{5}}} = \underline{\hspace{2cm}}$
38.  $\frac{\frac{\log_5 \left( \frac{20}{3} \right)}{\log_5 5}}{\log_5 3^{\log_3 \left( \frac{5}{\log_2 4} \right) + \log_3 \log_2 4}} = \underline{\hspace{2cm}}$
39.  $\ln \left( \frac{\log_{(1+1)} \left( e^{\ln 2} \right)^{e^2}}{\log_{(1+1)} \log_5 25} \right) = \underline{\hspace{2cm}}$
40.  $\frac{\frac{\log_2 \left( \frac{16}{\log_3 4} \right) + \log_2 \log_3 4}{\log_{(2^2)} 4}}{\log_{(2^2)} 2} = \underline{\hspace{2cm}}$
41.  $\frac{\log_{(\log_2 4)} \left( \frac{8}{\log_2 4} \right) + \log_{(\log_2 4)} \log_2 4}{\log_2 (1+1)} = \underline{\hspace{2cm}}$
42.  $\lg (100 (3 + 1) \times 9) - \lg 9 - \frac{\log_{(3^2)} (3+1)}{\log_{(3^2)} 10} = \underline{\hspace{2cm}}$
43.  $\frac{1}{\log_{\left(\frac{e^3}{2 \times 2}\right)} e} + \ln (2 \times 2 \log_5 16) - \ln \log_5 16 + \frac{0}{3} = \underline{\hspace{2cm}}$
44.  $\frac{\log_{((1+1) \log_3 9)} 4(1+0)}{\log_{((1+1) \log_3 9)} 4(1+0)} = \underline{\hspace{2cm}}$
45.  $\ln (e^4 (3 + 3)) - \frac{\log_{(2^3)} (3+3)}{\log_{(2^3)} e} = \underline{\hspace{2cm}}$
46.  $\log_5 \left( \frac{5(3+e^{\ln 3})}{5^3} \right) + \log_5 5^3 - \log_5 (3 + e^{\ln 3}) = \underline{\hspace{2cm}}$
47.  $\log_{(1+4)} \left( 25 \times \frac{1}{4} \right) - \log_5 \left( \frac{1}{4} \times \frac{1}{4} \right) - \log_5 \left( \frac{1}{4} \right) = \underline{\hspace{2cm}}$
48.  $\frac{\frac{\lg (6+\log_2 2+\log_2 2)}{\log_{(2^3)} (2 \log_2 2)}}{\log_{(2^3)} 10} = \underline{\hspace{2cm}}$
49.  $\log_{\left(3 \left( \lg 2 \lg 5 + \lg^2 2 + \lg \left( \frac{5}{3} \right) + \lg 3 \right) \right)} 2^{\log_{(2^{\log_2 2})} 27} = \underline{\hspace{2cm}}$
50.  $\frac{\lg \left( \frac{1000}{\log_2 9} \right) + \lg \log_2 9 + \lg 10^1}{\frac{\lg 10}{\frac{\log_2 10}{\log_2 10}}} = \underline{\hspace{2cm}}$
51.  $\log_2 \left( 2^{\log_2 8} \log_{(3^{\log_3 3})} 9 \right) - \frac{1}{2} \log_2 \log_{(3^{\log_3 3})}^2 9 = \underline{\hspace{2cm}}$
52.  $\log_{(e^{\ln 4})} \left( \frac{12}{2} \times \frac{1}{4} \right) - \log_{(e^{\ln 4})} \left( \frac{1}{4} \right) = \underline{\hspace{2cm}}$

53.  $\log_{\left(\frac{12}{4}\right)} \left(9 \times \left(\frac{12}{4}\right)^{\frac{12}{2}}\right) - \log_3 \left(\frac{12}{4}\right)^{\frac{12}{2}} = \underline{\hspace{2cm}}$
54.  $\frac{\log_{\left(5^{\log_5 3}\right)} 27}{\log_{\left(\frac{6}{4}\right)} (3 \log_5 8) - \log_{\left(\frac{6}{4}\right)} \log_5 8} = \underline{\hspace{2cm}}$
55.  $\frac{\lg\left(\frac{5}{\log_2 9}\right) + \frac{1}{\log\left(\frac{\lg 9}{\lg 2}\right)} e^{\ln 10} + 3 - 3}{\lg 3^{\log_3 5}} = \underline{\hspace{2cm}}$
56.  $\frac{\log_{\left(3^{\log_3 2}\right)} \left(\frac{72+9}{3}\right) + \log_{\left(3^{\log_3 2}\right)} 3}{\log_2 \left(\frac{12}{2}\right)} = \underline{\hspace{2cm}}$
57.  $\log_3 \left(\frac{9}{2 \times 2^{\log_2 2}}\right) + \frac{1}{3} \log_{\left(\frac{12}{3}\right)} (2 \times 2^{\log_2 2})^3 = \underline{\hspace{2cm}}$
58.  $\ln \left(e^3 \times \frac{1}{2}\right) - \frac{\log_{(2^2)} \left(\frac{1}{2}\right)}{\log_{(2^2)} e} = \underline{\hspace{2cm}}$
59.  $\frac{\log_{(2^3)} \left(\frac{2 \times 8}{\log_2 8}\right) + \log_{(2^3)} \log_2 8}{\log_{(2^3)} 2} = \underline{\hspace{2cm}}$
60.  $\frac{1}{\log_{(2^5 \times 5^1)} 5} - \frac{\log_3 \left(\frac{5^1}{\log_3 9}\right) + \log_3 \log_3 9}{\frac{1}{\log_5 3}} = \underline{\hspace{2cm}}$
61.  $\frac{\log_{\left((e^{\ln 2})^3\right)} e^4}{\log_{\left((e^{\ln 2})^3\right)} e} = \underline{\hspace{2cm}}$
62.  $\frac{\frac{\lg(\log_2 2 + \log_2 2)}{\frac{\ln 2}{\ln 3}}}{\log_3 \left(\frac{10}{3 \times 3}\right) + \log_3 (3 \times 3)} = \underline{\hspace{2cm}}$
63.  $\frac{\frac{\log_7 \left(\frac{3000}{4}\right)}{\log_7 (3+4)}}{\log_7 \left(10 \times \frac{1}{3}\right) - \log_7 \left(\frac{1}{3}\right)} = \underline{\hspace{2cm}}$
64.  $\frac{\log_2 \left(\log_3 (10^{\lg 9} \times 3^4) - \log_3 3^4\right)}{5 \log_2 \left(\frac{12}{3}\right)^{\frac{1}{5}}} = \underline{\hspace{2cm}}$
65.  $\log_{\left(\frac{6+6}{2}\right)} \left(81 \left(\frac{6+6}{2}\right)^2\right) - \log_{\left(\frac{6+6}{2}\right)} \left(\frac{6+6}{2}\right)^2 = \underline{\hspace{2cm}}$
66.  $\frac{\log_5 (16(\lg 2 \lg 2 + \lg 5 \lg 5 + 2 \lg 5 \lg 2) \times 5^3) - \log_5 5^3}{\frac{\log_3 4}{\log_3 5}} = \underline{\hspace{2cm}}$
67.  $\frac{\log_{(1+1)} \left(256 \times \frac{1}{4}\right)}{\log_{(1+1)} 4} - \frac{\log_3 \left(\frac{1}{4}\right)}{\frac{\lg 4}{\lg 3}} = \underline{\hspace{2cm}}$
68.  $\frac{\frac{1}{5} \log_{(2^2)} \left(10^{\lg 10000}\right)^5}{\log_{(2^2)} e^{\frac{\lg 10}{\lg e}}} = \underline{\hspace{2cm}}$
69.  $\log_{\left(3^{\log_3 (2(\lg 2 \lg 5 + \lg^2 5 + \lg 2)(3+2)) - \log_3 (3+2)}\right)} 10^{\lg 8} = \underline{\hspace{2cm}}$
70.  $\frac{\log_5 \left(3^{\log_3 64 \frac{1 \times 1}{2 \times 1}}\right)}{\log_5 4} - \log_4 \left(\frac{1}{2} \times 4^4\right) - \log_4 4^4 = \underline{\hspace{2cm}}$

$$71. \frac{\log\left(\frac{9}{3}\right) \left(e^2 \log_5 16\right) - \log\left(\frac{9}{3}\right) \log_5 16}{\frac{\log_7 e}{\log_7 3}} = \underline{\hspace{2cm}}$$

$$72. \log_4 \left(256 \left(\lg 2 \lg 5 + \lg^2 5 + \lg 2\right) (2+2)^3\right) - \frac{1}{3} \log_4 \left((2+2)^3\right)^3 = \underline{\hspace{2cm}}$$

$$73. \frac{\frac{1}{\log\left(\frac{2}{\log_3\left(\frac{8}{2 \times 3}\right) + \log_3(2 \times 3)}\right)^2 \times 2 + \log_2 \log_3 8 \times 2}}{2} = \underline{\hspace{2cm}}$$

$$74. \frac{\log_{(2^3)} e^{1+1(\lg 2 \lg 2 + \lg 5 \lg 5 + 2 \lg 5 \lg 2) + \frac{0}{1}}}{\log_{(2^3)} e} = \underline{\hspace{2cm}}$$

$$75. \frac{\frac{1}{\log_{256}\left(\frac{9}{4}\right)}}{\frac{\log_{(2 \times 2)}\left(\frac{12}{2}\right)}{\frac{\log_6 3}{\log_6(2 \times 2)}}} = \underline{\hspace{2cm}}$$

$$76. \log\left(\frac{24}{3+1}\right) \left(5^{\log_5 27} \times \frac{1}{2}\right) - \log\left(\frac{24}{3+1}\right) \left(\frac{1}{2}\right) = \underline{\hspace{2cm}}$$

$$77. \frac{\frac{1}{\frac{1}{4} \log_{125} \left(5^{\log_5 5}\right)^4}}{\frac{1}{4} \log_{(4+1)} \left(\frac{10}{e^{\ln 3}}\right)^4} = \underline{\hspace{2cm}}$$

$$78. \frac{\log_{(2^3)} 8}{\log_{(2^3)} (2 \times 5)^{\lg(\log_2 4(1+3)) - \lg(1+3)}} = \underline{\hspace{2cm}}$$

$$79. \frac{\frac{\log\left(\left(5^{\log_5 2}\right)^2\right)^{16}}{\log_{(1+1)} 4}}{\log_{(1+1)} \left(5^{\log_5 2}\right)^2} = \underline{\hspace{2cm}}$$

$$80. \frac{\log_3 \left(10^{\frac{\log_5 10}{\log_5 10}} \times \frac{1}{4}\right) - \log_3 \left(\frac{1}{4}\right)}{\log_{(1+2)} 3^{\log_3 10}} = \underline{\hspace{2cm}}$$

$$81. \frac{1}{\log_{(100 \times 10)} \left(10 \left(\lg 2 \lg 5 + \lg^2 2 + \frac{\log_{(2^2)} 5}{\log_{(2^2)} 10}\right)\right)} = \underline{\hspace{2cm}}$$

$$82. \frac{1}{4} \times 5 \log \left( \left(2^{\log_2 10}\right)^{\lg(4 \times 10^1) - \lg 10^1} \right) (64^4)^{\frac{1}{5}} = \underline{\hspace{2cm}}$$

$$83. \frac{10^{\lg 1}}{\log_5 25} \left( \log_{\left(\frac{6}{2}\right)} (27^2 (2+1)) - \log_{\left(\frac{6}{2}\right)} (2+1) \right) = \underline{\hspace{2cm}}$$

$$84. \frac{\log_{(2+1)} (10(2+1)^2) - \log_{(2+1)} (2+1)^2}{\log_{(e^{\ln 3})} 10} = \underline{\hspace{2cm}}$$

$$85. \frac{1}{\frac{\log_3 \left( \left( \frac{1}{\log_2 2} + \frac{1}{5} \log_2 2^5 \right) \log_2 9 \right) - \log_3 \log_2 9}{\log_3 \left( \frac{4}{4} \right)}} = \underline{\hspace{2cm}}$$

$$86. \frac{\log_7 e^{\ln 1000}}{\log_{(3^{\log_3 7})} (10(1+3)) - \log_{(3^{\log_3 7})} (1+3)} = \underline{\hspace{2cm}}$$

$$87. \log_{(\log_5 25)} (8 \log_5^4 25) - \log \left( \frac{\log_{(2^3)} 25}{\log_{(2^3)} 5} \right) \log_5^4 25 = \underline{\hspace{2cm}}$$

$$88. \log_{(1+1)} \left( \frac{16}{\log_3 4} \right) + \frac{\log_{(1+1)} \left( \frac{\lg 4}{\lg 3} \right)}{\log_{(1+1)} (1+1)} = \underline{\hspace{2cm}}$$

$$89. \frac{\lg \left( 10 \times (3^{\log_3 10})^3 \right)}{\lg \left( \frac{30}{3} \right)} - \frac{\log_2 (3^{\log_3 10})^3}{\log_2 10} = \underline{\hspace{2cm}}$$

$$90. \log_{\left(\frac{15}{4}\right)} \left( 25 \times 5^{1(\lg 2 \lg 5 + \lg^2 5 + \lg 2)} \right) - \log_5 5^{1(\lg 2 \lg 5 + \lg^2 5 + \lg 2)} = \underline{\hspace{2cm}}$$

$$91. \frac{\log \left( \frac{\lg 10}{e^{\lg e}} \right)^{\left( \frac{10}{3} \right) \times 4 + \frac{1}{\log_3 e} \frac{\lg 10}{\lg e} \times 4}}{4} = \underline{\hspace{2cm}}$$

$$92. \log_{(4(\lg 2 \lg 5 + \lg^2 5 + \lg 2))} \left( 16 \left( \lg 2 \lg 5 + \lg^2 2 + \lg \left( \frac{5}{\log_3 4} \right) + \lg \log_3 4 \right) \right) = \underline{\hspace{2cm}}$$

$$93. \frac{\frac{1}{\ln \log_5 5^2}}{\log_2 \left( \frac{e}{\log_3 9} \right) + \log_2 \left( \log_3 \left( \frac{9}{\log_3 8} \right) + \log_3 \log_3 8 \right)} = \underline{\hspace{2cm}}$$

$$94. \log_{(2 \log_2 2)} \left( \frac{\frac{32}{10^{\lg 2}}}{(2 \log_2 2)^2} \right) + \log_{(2 \log_2 2)} (2 \log_2 2)^2 = \underline{\hspace{2cm}}$$

$$95. \frac{\log_3 \left( 10^{\frac{\log_7 3}{\log_7 10}} \times 9 \right) - \log_3 9}{\frac{\lg((1+2) \times 5) - \lg 5}{\frac{\log_2 3}{\log_2 10}}} = \underline{\hspace{2cm}}$$

$$96. \log_{\left(\frac{9(1+0)}{3(1+0)}\right)} \left( \frac{3^{\log_3 27}}{4 \log_3 9^{\frac{1}{4}}} \right) + \log_{\left(\frac{9}{3}\right)} \log_3 9 = \underline{\hspace{2cm}}$$

$$97. \log_{\left(\frac{8}{3}\right)} (e^{\ln 16} \log_3 16) - \frac{\log_{(2^2)} \left( \frac{1}{\log_{16} 3} \right)}{\log_{(2^2)} 2} = \underline{\hspace{2cm}}$$

$$98. \frac{\log_{(2^{10 \lg 2})} \left( \frac{16}{5} \right) + \log_{(2^{10 \lg 2})} 5}{\log_{(2^{10 \lg 2})} 3^{\log_3 4}} = \underline{\hspace{2cm}}$$

$$99. \frac{1}{5} \left( \log_{\left(2^{\frac{1}{\log_5 2}}\right)} \left( \frac{(10^{\lg 5})^{2+3}}{5} \right) + \log_{\left(2^{\frac{1}{\log_5 2}}\right)} 5 \right) = \underline{\hspace{2cm}}$$

$$100. \ln \left( e^{3(\lg 2 \lg 5 + \lg^2 5 + \lg 2)} e^3 \times 4 \right) - \ln 4 - \frac{\log_3 e^3}{\frac{\log_2 e}{\log_2 3}} = \underline{\hspace{2cm}} \quad \text{参考答案}$$

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