LOGARİTMA – 2

12) $\log_2(2x+1) - \log_2(x+2) = \log_2 9 - \log_2 3$
denkleminin çözüm kümesi? $\left[c:\{8\}\right]$

13) $\log_2(x+2) + \log_2 x = 3$ $\left[c:2\right]$

14) $\log x + 2.\log\dfrac{1}{x} = \log 8 - 2\log x$ eşitliğini sağlayan
x değer kaçtır? $\left[c:8\right]$

15) $\log_3 a + \log_3 b = 1$ ve $\log_3 a - \log_3 b = 1$ ise
a kaçtır? $\left[c:3\right]$

16) $x^a = b$ olmak üzere,
$\log_{b^2} x + \log_{b^2} x^2 + \log_{b^2} x^3 + \ldots + \log_{b^2} x^k = 3$
ise a'nın k türünden eşiti nedir? $\left[c:\dfrac{k(k+1)}{12}\right]$

17) $\log_x y + 5.\log_y x = 6$ ise x ile y arasındaki
bağıntı nedir? $\left[c:x=y\right]$

18) $\dfrac{10}{\log_3 x} + \dfrac{1}{\log_x 3} = 7$ denklemini sağlayan x
reel sayılarının toplamı kaçtır? $\left[c:252\right]$

37) $3.\log_5 x - \log_x 5 = 2$ denk. ç.k = ? $\left[c:\left\{\dfrac{\sqrt[3]{25}}{5}, 5\right\}\right]$

27) $\log_3 x + \log_x 3 = 2$ ise $x = ?$ $\left[c:3\right]$

28) $\ln x - 5 = 6.\log_x e$ eşitliğini sağlayan x değerlerinden birisi? $\left[c:e^{-1}\right]$

19) $\log_4 9.\log_3 25.\log_5 16 = ?$ $\left[c:8\right]$

20) $\log_3 7.\log_{49} 8.\log_2 27 = ?$ $\left[c:\dfrac{9}{4}\right]$

21) $\dfrac{2}{\log_4 12} + \log_{12} 9 + \log_{25} 5 = ?$ $\left[c:\dfrac{5}{2}\right]$

22) $\log_2 25.\log_5 49.\log_7 2 = ?$ $\left[c:2\right]$

23) $\log_4 9.\log_3 25.\log_5 16 = ?$ $\left[c:8\right]$

24) $\log_3 7.\log_{49} 8.\log_2 \sqrt{27} = ?$ $\left[c:\dfrac{9}{4}\right]$

25) $(\log_4 3).(\log_2 a).(\log_3 2) = 2$ ise $a = ?$ $\left[c:16\right]$

26) $\log_5(x-4).\log_{64} 125 = 1$ ise $x = ?$ $\left[c:8\right]$

29) $\log_3 16 = x$ ve $\log_4 27 = y$ ise y'nin x türünden eşiti nedir? $\left[c:\dfrac{6}{x}\right]$

30) $\log_3 5 = x$ ise $\log_5 15 = ?$ $\left[c:\dfrac{x+1}{x}\right]$

31) $\dfrac{5}{\log_3 15} + \dfrac{5}{\log_5 15} = ?$ $\left[c:5\right]$

32) $\dfrac{1}{\log_5 3} + \dfrac{1}{\log_6 3} - \dfrac{1}{\log 3} = ?$ $\left[c:1\right]$

33) $\dfrac{1}{\log_3 x} + \dfrac{1}{\log_9 x} + \dfrac{1}{\log_{27} x} + \ldots + \dfrac{1}{\log_{243} x} = \dfrac{15}{2}$

ise $x = ?$ $\left[c:9\right]$

34) $x > 1$, $\dfrac{5}{\log_2 6x} + \dfrac{5}{\log_3 6x} + \dfrac{5}{\log_x 6x} = ?$ $\left[c:5\right]$

35) $\dfrac{4}{\log_3 105} + \dfrac{16}{\log_{\sqrt[4]{5}} 105} + \dfrac{8}{\log_{\sqrt{7}} 105} = ?$ $\left[c:4\right]$

36) $\log_{25} 4 + \dfrac{1}{\log_{16} 5} = \log_5 x$ ise $x = ?$ $\left[c:32\right]$

38) $3.\ln x + \ln\dfrac{1}{x} = e^{\ln 4}$ ise $x = ?$ $\left[c:e^2\right]$

39) $\log_3 x.\log_9 x.\log_{27} x = \dfrac{9}{2}$ ise $x = ?$ $\left[c:27\right]$

40)
$\dfrac{a}{\log_2 9} + \dfrac{2a}{\log_{\sqrt{2}} 9} + \dfrac{3a}{\log_{\sqrt[3]{2}} 9} + \dfrac{4a}{\log_{\sqrt[4]{2}} 9} + \dfrac{5a}{\log_{\sqrt[5]{2}} 9} = \log_{27} 64$
ise a kaçtır? $\left[c:\dfrac{4}{5}\right]$

41) $\log_3 2 = a$ ise
$\dfrac{1}{\log_4 12} + \dfrac{1}{\log_{24} 12} - \dfrac{1}{\log_3 12} = ?$ $\left[c:\dfrac{5a}{1+2a}\right]$

42) $\left[c:5050\right]$
$1 + \dfrac{1}{\log_{x^2} x} + \dfrac{1}{\log_{x^3} x} + \dfrac{1}{\log_{x^4} x} + \ldots + \dfrac{1}{\log_{x^{100}} x} = ?$

43) $\log_{25} 4 + \dfrac{1}{\log_{16} 5} = \log_5 x$ ise $x = ?$ $\left[c:32\right]$

44) $x = \log_2 5$, $y = \log_{\frac{1}{9}} 625$ ise $\dfrac{x}{y} = ?$ $\left[c:\dfrac{-1}{2}\right]$

45) $6^{\log_6 5} = x + 2$ ise $\log_3 x = ?$ $\left[c:1\right]$

46) $e^{2\ln x} + 10^{\log x} = 20$ ise $x = ?$ $\left[c:4\right]$

47) $125^{\log_5 3} + 8^{\log_2 3} = ?$ $\left[c:54\right]$

48) $x^2 - x = 7^{\log_7(5x-5)}$ ç.k. = ? $\left[c:\{5\}\right]$

49) $5^{\log_{125}[\log(x+1)]} = 4$ ise x'in sondan kaç basamağı 9'dur? $\left[c:64\right]$

50) $3^{4.\log_9(x+2)} = 16$ ise x = ? $\left[c:2\right]$

51) $\log_3 x = \left(\sqrt[3]{3}\right)^{\log_3 8}$ ise x = ? $\left[c:9\right]$

52) $3^{\log_3(4x+8)} + \log_{\frac{1}{2}} 8 = 1$ denk. ç.k.=? $\left[c:\{-1\}\right]$

53) $3^{2+\log_3(1-x)} = 18$ ise x = ? $\left[c:-1\right]$

54) $3^{\frac{1}{\log_2 3}}.3^{\frac{1}{\log_4 3}}.3^{\frac{1}{\log_{16} 81}} = ?$ $\left[c:16\right]$

55) $\dfrac{27^{\log_3 5} + 8^{\frac{1}{\log_7 2}}}{4^{\frac{1}{\log_6 2}} - 5\log^{\frac{1}{\log_3 5}} + 3} = ?$ $\left[c:13\right]$

57) $\log_2 3 = x$ ise $\log_{12} 9 = ?$ $\qquad \left[c : \dfrac{2x}{x+2}\right]$

58) $\log_2 \dfrac{1}{4} - \log_{\frac{1}{2}} 4 = ?$ $\qquad [c : 0]$

59) $81^{\log_3 \sqrt{x+4}} = 4$ denk. çözüm kümesi? $\quad [c : \{1\}]$

60) $3^{4.\log_9(x+2)} = 16$ ise $x = ?$ $\qquad [c : 2]$

61) $\log_3 x = \sqrt[3]{3}^{\log_3 8}$ ise $x = ?$ $\qquad [c : 9]$

62) $5^{\log_{125}[\log(x+1)]} = 4$ ise x 'in sondan kaç basamağında 9 vardır? $\qquad [c : 64]$

63) $\log_5 \left[\log_x \left(\log_{\sqrt[4]{2}} 256\right)\right] = 1$ ise $x = ?$ $\qquad [c : 2]$

64) $\log_4 \left(\log_3 \left(\log_{\sqrt[3]{5}}(x-7)\right)\right) = \dfrac{1}{2}$ ise $x = ?$ $\quad [c : 132]$

65) $\log_2(x+3) + \log_{\frac{1}{2}}(x-1) = \log_4 25$ ise $x = ?$ $[c : 2]$

66) $\log_2 x + \log_{\sqrt{2}} \sqrt{x} + \log_{\sqrt[3]{2}} \sqrt[3]{x} + .. + \log_{\sqrt[10]{2}} \sqrt[10]{x} = 10$ ise $x = ?$ $\qquad [c : 2]$

67) $\log_{\sqrt[3]{5}} 5^5 + \log_{5^3} \sqrt{5} = ?$ $\qquad \left[c : \dfrac{91}{6}\right]$

68) $4.\log_{16} 32 - \log_{\sqrt[4]{3}} 9 = ?$ $\qquad [c : -3]$

69) $\log_4(x^2 - 4) - \log_{\sqrt{4}}(x-2) = \log_{16} 9$ eşitliğini sağlayan x değeri kaçtır? $\qquad [c : 4]$

70) $\left(\log_{\frac{1}{9}} 125\right)\left(\log_2 27\right)\left(\log_{\sqrt[3]{5}} \sqrt{2}\right) = ?$ $\qquad \left[c : \dfrac{-27}{8}\right]$

71) $25^{\log_{\sqrt{5}} 3} = \log_3 x$ ise $x = ?$ $\qquad [c : 3^{81}]$

72) $\dfrac{1}{\log_9 \sqrt{12}} + \dfrac{1}{\log_{32} 12} + \dfrac{1}{\log_8 12} = ?$ $\qquad [c : 4]$

73) $2^{2 + \log_{\sqrt[3]{2}} x} = \dfrac{3}{4}.\log_{\sqrt[3]{3}} \sqrt[4]{27}$ ise $x = ?$ $\left[c : \sqrt[3]{\dfrac{3}{4}}\right]$

74) $\log_{\sqrt[3]{2}} 9.\log_{81} \sqrt{2} = ?$ $\qquad \left[c : \dfrac{3}{4}\right]$

75) $\log_{\sqrt{7}} 49 - \log_{\sqrt{3}} 27 + \log_4 64 = ?$ $\qquad [c : 1]$

76) $\log_{\sqrt[3]{2}} 32 + \log_{5^3} \sqrt{5} = ?$ $\qquad \left[c : \dfrac{91}{6}\right]$

77) $4.\log_{16} 32 - \log_{\sqrt[4]{3}} 9 = ?$ $\qquad [c : -3]$

78) $3^{\log_3(4x+8)} + \log_{\frac{1}{2}} 8 = 1$ denk. ç.k.= ? $\quad [c : \{-1\}]$

79) $\log_{\sqrt{3}} 4.\log_8 \sqrt[3]{49}.\log_{243} 3 = a^3$ ise $a = ?$ $\left[c : \dfrac{2}{3}\right]$

80) $\log_{\sqrt{3}} \dfrac{1}{27} + 3.\log_{\frac{1}{3}} 3 + 5.\log_{\sqrt{2}} 2 = ?$ $\qquad [c : 1]$

81) $\log_{\sqrt{7}} 49 - \log_{\sqrt{3}} 27 + \log_4 64 = ?$ $\qquad [c : 1]$

82) $\log_{\sqrt[3]{2}} 9. \log_{81} \sqrt{2} = ?$ $\qquad \left[c : \dfrac{3}{4}\right]$

83) $\log_{\frac{1}{9}} 125.\log_2 \sqrt{27}.\log_{\sqrt[3]{5}} \sqrt{2} = ?$ $\qquad \left[c : \dfrac{-27}{8}\right]$

84) $\log_{\sqrt{3}} x + \log_3(x+2) = \log_3(x^2 + 2x)$ eşitliğini sağlayan x değeri kaçtır? $\qquad [c : 1]$

$$\boxed{x^{\log_a y} = y^{\log_a x}}$$

85) $3^{\log_2 5} = 5^{\log_x 3}$ ise $x = ?$ $\qquad [c : 2]$

86) $3^{\log_4 x} = 54 - x^{\log_4 3}$ ise $x = ?$ $\qquad [c : 64]$

56) $2^{\log_x 5} + 5^{\log_x 2} = 64$ ise $x = ?$ $\qquad \left[c : \sqrt[5]{5}\right]$

87) Hangisi yanlıştır? $\qquad [c : D]$

A) $\log_{x^2} y = \log_x \sqrt{y}$ B) $\log_x \left(\dfrac{1}{y}\right) = \log_{\frac{1}{x}} y$

C) $\log 10 = \ln e$ D) $\log_x y^2 = (\log_x y)^2$

E) $\log_{x^2} y^4 = \log_x y^2$

88) $\log_3 5 = x$ ise $\log_5 15$ 'in x türünden değeri nedir? $\qquad \left[c : \dfrac{x+1}{x}\right]$

90) $\log_3 5 = a$ ise $\log_{25} 243 = ?$ $\qquad \left[c : \dfrac{5}{2a}\right]$

91) $\log 375 = a$, $\log 75 = b$ ise $\log 5$ 'in a ve b türünden eşiti nedir? $\qquad [c : a - b]$

92) $\log 4 = x$, $\log 7 = y$ ise $\log 112$ ifadesinin x ve y türünden değeri nedir? $\qquad [c : 2x + y]$

93) $\log 72 = a$, $\log 3 = b$ ise $\log 2$ 'nin a ve b türünden değeri nedir? $\qquad \left[c : \dfrac{a - 2b}{3}\right]$

94) $\log 2 = a$, $\log 3 = b$, $\log 840 = c$ ise $\log 7$ 'nin a, b, c türünden değeri nedir? $\qquad [c : c - 2a - b - 1]$

95) $\log 3 = x$, $\log 7 = y$, $\log 8400 = z$ ise $\log 2$ 'nin

96) $\log_2 x = 3$ ise $\log_{16} \sqrt{x} = ?$ $\qquad \left[c : \dfrac{3}{8}\right]$

97) $\log_{27} b = \log_{81} a$ ise a ile b arasındaki bağıntı nedir? $\qquad \left[c : \sqrt[4]{a} = \sqrt[3]{b}\right]$

98) $\log_{ab} a = c$ ise $\log_b a = ?$ $\qquad \left[c : \dfrac{c}{1-c}\right]$

99) $\log 7 = a$, $\log 175 = b$ ise $\log 5 = ?$ $\left[c : \dfrac{b-a}{2}\right]$

00) $\log_2 3 = a$ ise $\log_3 18 = ?$ $\qquad \left[c : \dfrac{2a+1}{a}\right]$

01) $9 = 5^a$, $5 = 2^b$ ise $\log_{360} 5 = ?$ $\left[c : \dfrac{b}{ab+b+3}\right]$

02) $\log_4 14 = a$ ise $\log_7 64 = ?$ $\qquad \left[c : \dfrac{6}{2a-1}\right]$

03) $\log_{\sqrt[3]{2}} 2 = a$ ise $\log_9 a = ?$ $\qquad \left[c : \dfrac{1}{2}\right]$