קובץ מצורף - הנחיות מר...

$$\log_x(x^2-4x+12) = 2 \quad (2$$

$$\cancel{x^2} = \cancel{x^2} - 4x + 12$$

$$4x = 12 \qquad /:4$$

$$x = 3$$

$$\log_5(6-5^x) = 1-x \quad (24$$

$$5^{1-x} = 6-5^x \qquad t = 5^x$$

$$\frac{1}{\cancel{t}} \cdot 5 = 6-t \qquad /\cdot t$$

$$5 = 6t - t^2$$

$$t^2 - 6t + 5$$

$$t_1 = 1, \; t_2 = 5$$

$5^x = 1$ $\quad$ $5^x = 5$

$x = 0$ $\quad$ $x = 1$

$$\frac{2}{\log_8 x - 1} - \frac{2}{\log_8 x} = 1 \quad (32$$

$t = \log_8 x$

$$\frac{2}{t-1} - \frac{2}{t} = 1 \quad / (t-1)\cdot(t)$$

$$2t - 2(t-1) = (t-1)(t)$$

$$\cancel{2t} - \cancel{2t} + 2 = t^2 - t$$

$$2 = t^2 - t$$

$$t^2 - t - 2 = 0$$

$$t_1 = -1 \; , \; t_2 = 2$$

$\log_8 x = -1$ $\quad$ / $\quad$ $\log_8 x = 2$

$8^2 = x$

$8^{-1} = x$ | $8^{2} = x$

$x = \frac{1}{8}$ | $x = 64$

$$\frac{\log_6 x + 1}{(\log_6 x)^2} = \frac{3}{4} \quad (34$$

$$\frac{t+1}{t^2} = \frac{3}{4} \qquad /\cdot t^2 \cdot 4$$

$$4(t+1) = 3(t^2)$$

$$3t^2 - 4t - 4$$

$\sqrt{}$ solve

$$t_1 = 2, \; t_2 = -\frac{2}{3}$$

$\log_6 x = 2$ | $\log_6 x = -\frac{2}{3}$

$6^2 = x$ | $6^{-\frac{2}{3}} =$

$6^2 = x$ | $6 =$

$x = 36$ | $x = 0.302$

$\log_3(5x+8) - \log_3 x = 2$ (38

$\log_3(5x+8) - \log_3 x = 2$

$\log_3\left(\frac{5x+8}{x}\right) = 2$

$9 = \frac{5x+8}{x}$ $/ \cdot x$

$9x = 5x + 8$

$4x = 8$ $/ : 4$

$\boxed{x = 2}$

$2\log_3 x - \log_3(7x-2) = -1$ (50

$\log_3\left(\frac{x^2}{7x-2}\right) = -1$

$$\log_3\left(\frac{\quad}{7x-2}\right) =$$

$$\frac{1}{3} = \frac{x^2}{7x-2} \quad / \; 7x-2 \cdot 3$$

$$7x-2 = 3x^2$$

$$3x^2-7x+2$$

√ani

$$\boxed{x_1 = 2 \,,\, x_2 = \frac{1}{3}}$$

$$\log_2(25^x+15) - 3 = x\log_2 5 \quad (68$$

$$\log_2\left(\frac{25^x+15}{5^x}\right) = 3$$

$$2^3 = \frac{25^x+15}{5^x} \quad / \cdot 5^x$$

$$t = 5^x$$

$$8(5^x) = 5^{2x}+15$$

$$8t = t^2+15$$

$$8t = t^2 + 15$$

$$t^2 - 8t + 15$$

$$t_1 = 3 \,,\; t_2 = 5$$

$$5^x = 3 \qquad 5^x = 5$$

$$x_1 = 0.682 \qquad x_2 = 1$$

$x^{\log_3 x} = 5$ (76

$$x^{\boxed{\log_3 x}} = 5 \qquad / \log_3$$

$$\log_3 \boxed{x^{\boxed{\log_3 x}}} = \log_3 \boxed{5} \qquad t = \log_3 x$$

$$\log_3 \boxed{x} \cdot \log_3 \boxed{x} = \log_3 \boxed{5}$$

$$t \cdot t = 1.464$$

$$t^2 = 1.464 \qquad / \sqrt[2]{}$$

$$t^2 = 1.464 \quad /V$$

$$t = +- 1.210$$

$$\log_3 x = 1.210$$

$$3^{1.210} = x$$

$$x_1 = 3.778 \qquad x_2 = 0.264$$

$$x^{2+\log 10x} = 10000$$

x^-

$x^{2+\log 10x} = 10000$ (90

$$\log(x^{2+\log 10x}) = \log(10000)$$

$$(2+\log 10x)(\log x) = 4$$

$$(2+\log 10+\log x)(\log x) = 4$$

$$(2+1+\log x)(\log x) = 4$$

$$(3+t)(t) = 4$$

$$(3+t)(t)=4$$

$$3t+t^2=4$$

$$t^2+3t-4=0$$

$$-4, +1$$

$$t_1=-4, \quad t_2=1$$

$$\log x=-4$$

$$10^{-4}=x$$

$$x_1=\frac{1}{10{,}000} \qquad x_2=10$$

$$\log_2 x+\log_8 x^2=10 \quad (108$$

$$\log_2 x+\frac{2\log_2 x}{\log_2 8}=10$$

$$2t \quad \ldots \quad 10 \quad / \cdot 3$$

$$t + \frac{2t}{3} = 10 \quad / \cdot 3$$

$$3t + 2t = 30$$

$$t = 6$$

$$\log_2 x = 6$$

$$x = 64$$

$$\log_2 x \cdot \log_4 x \cdot \log_8 x = 4\frac{1}{2} \quad (110$$

$$\log_2 x \cdot \left(\frac{\log_2 x}{\log_2 4}\right) \cdot \left(\frac{\log_2 x}{\log_2 8}\right) = 4\frac{1}{2}$$

$$\frac{t}{1} \cdot \frac{t}{2} \cdot \frac{t}{3} = 4\frac{1}{2}$$

$$\frac{t^3}{} = 4\frac{1}{2} \quad / \cdot 6$$

$$\frac{t}{6} = 4^{\frac{1}{2}} \qquad 1 \cdot 6$$

$$t^3 = 27$$

$$t = 3$$

$$\log_2 x = 3$$

$$2^3 = x$$

$$x = 8$$

$$(\log_3 x)^2 - \log_{\sqrt{3}} x = 3 \quad \textbf{(112}$$

$$(\log_3 x)^2 - \log_{\sqrt{3}} x = 3$$

$$(\log_3 x)^2 - \left(\frac{\log_3 x}{\log_3 \sqrt{3}}\right) = 3$$

$$t^2 - 2t - 3 = 0$$

$3, -1$

$\log_3 x = 3$ | $\log_3 x = -1$

$x_1 = 27$ | $x_2 = \frac{1}{3}$