

$$1. \quad ax^2 + bx + c = y$$

$$\begin{cases} a+b+c=2 \\ 9a+3b+c=10 \\ 25a+5b+c=1 \end{cases} \quad \begin{aligned} a &= -2,125 \\ b &= 12,5 \\ c &= -8,375 \end{aligned}$$

$$y = -2,125x^2 + 12,5x - 8,375$$

$$4.6. \log_4 16 = 2$$

$$4.7. \log_5 = -2$$

$$4.8. \log_{25} 5 = \frac{1}{2}$$

$$4.9. \log_3 \sqrt{27} = \frac{3}{2}$$

$$2. \quad \frac{x}{1+x} = 0,98$$

$$0,02x = 0,98$$

$$x = 49$$

$$m = 49 + 1 = 50 \text{ Kr}$$

$$4.10. \log_2 12 - \log_2 3 = 2$$

$$4.11. \log_6 12 + \log_6 3 = 2$$

$$4.12. e^{\ln 5} = 5$$

$$4.13. \frac{\log_{225} 225}{\log_{225} 15} = \log_{15} 225 = 2$$

$$4.14. \log_4 32 + \log_4 10 = \log_2 2^5 - 1 = \frac{3}{2}$$

$$4.15. \log_3 \sqrt{5} = \frac{1}{2} \log_3 5 = \frac{1}{2} \cdot \frac{5}{3} = \frac{5}{6}$$

$$3. \quad \begin{cases} 2^x = 256 \\ x = 8 \end{cases} \quad \begin{cases} 3^{\log_3(5x-5)} = 5 \\ (5x-5)^{\log_3 3} = 5 \end{cases}$$

$$\begin{cases} 2^x = 300 \\ x = \log_2 300 \end{cases}$$

$$\begin{aligned} \sqrt{5x-5} &= 5 \\ 5x-5 &= 25 \\ x &= 6 \end{aligned}$$

$$\begin{aligned} \log_8 2^{8x-4} &= 4 \\ 8x-4 &= 4 \\ 8x &= 8 \\ x &= 1 \end{aligned}$$

$$\begin{aligned} x^{\log_3 x+1} &= 9 \\ \log_3 x^{\log_3 x+1} &= \log_3 9 \\ (\log_3 x+1) \log_3 x &= 2 \\ (t+1)t &= 2 \\ t^2 + t - 2 &= 0 \end{aligned}$$

$$\sqrt{D} = \sqrt{9} = 3$$

$$\begin{aligned} t=1 & \Rightarrow \log_3 x = 1 \Rightarrow x = 3 \\ t=2 & \Rightarrow \log_3 x = -2 \Rightarrow x = \frac{1}{9} \end{aligned}$$