① $y = ax^2 + bx + c$

$$\begin{cases} 2 = a + b + c \\ 10 = 9a + 3b + c \\ 1 = 25a + 5b + c \end{cases}$$

$$\begin{cases} c = 2 - a - b \\ 10 = 9a + 3b + 2 - a - b \\ 1 = 25a + 5b + 2 - a - b \end{cases} \Rightarrow \begin{cases} c = 2 - a - b \\ 8 = 8a + 2b \\ -1 = 24a + 4b \end{cases}$$

$$\begin{cases} c = 2 - a - b \\ 16 = 16a + 4b \\ -1 = 24a + 4b \end{cases} \Rightarrow \begin{cases} c = 2 - a - b \\ b = 4 - 4a \\ 8a = -17 \end{cases} \quad a = -\frac{17}{8}$$

$$\begin{cases} a = -\frac{17}{8} \\ b = \frac{25}{2} \\ c = -\frac{67}{8} \end{cases}$$

Ответ: $y = -\frac{17}{8}x^2 + \frac{25}{2}x - \frac{67}{8}$

②

$$\begin{cases} y = x + 1 \\ 0{,}98 \cdot y = x \end{cases}$$

$0{,}98(x+1) = x$

$0{,}98x + 0{,}98 = x$

$0{,}02x = 0{,}98$

$x = 49$

$y = 49 + 1$

$y = 50$

Ответ: 50 кг.

③

1. $2^x = 256$ $\quad$ 2. $2^x = 300$

$x = 8$ $\quad$ $x = \log_2 300$

6. $\log_4 16 = \log_4 4^2 = 2$

7. $\log_5 \frac{1}{5} = \log_5 5^{-2} = -2$

8. $\log_{25} 5 = \log_{5^2} 5 = \frac{1}{2}\log_5 5 = \frac{1}{2}$

9. $\log_2 64 + \log_4 16 = 6 + 2 = 8$

9. $\log_{3\sqrt{27}} = \log_3 (27)^{\frac{1}{2}} = \log_3 (3^3)^{\frac{1}{2}} = \log_3 3^{\frac{3}{2}} = \frac{3}{2}$

10. $\log_2 12 - \log_2 3 = \log_2 \frac{12}{3} = \log_2 4 = 2$

13. $\frac{\log_2 225}{\log_2 15} = \log_{15} 225 = 2$

14. $\log_4 32 + \log_{0,1} 10 = \frac{\log_2 32}{\log_2 4} + \log_{10^{-1}} 10 =$

$= \frac{5}{2} - 1 = 1,5$

11. $\log_6 12 + \log_6 3 = \log_6 (12 \cdot 3^{36}) = 2$

Date
Company
Participants

MARSH