

$$a = 2 - b - c$$

1) Напишите ур-ние параболы, проходящей через точки $(1, 2)$ $(3, 10)$ $(5, 1)$

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

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

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

$$\begin{cases} a = 2 - b - c \\ 18 - 9b - 9c + 3b + c = 10 \\ 50 - 25b - 25c + 5b + c = 1 \end{cases}$$

$$\begin{cases} a = 2 - b - c \\ 6b + 8c = 8 \\ 50 - 25b - 25c + 5b + c = 1 \end{cases}$$

$$\begin{cases} a = 2 - b - c \\ b = \frac{4}{3} - \frac{4}{3}c \\ 50 - 20b - 24c = 1 \end{cases}$$

(2)

$$\begin{cases} a = 2 - b - c \\ b = \frac{4}{3} - \frac{4}{3}c \\ 20\left(\frac{4}{3} - \frac{4}{3}c\right) + 24c = 49 \end{cases}$$

$$\begin{cases} a = 2 - b - c \\ b = \frac{4}{3} - \frac{4}{3}c \\ \frac{80}{3} - \frac{80}{3}c + 24c = 49 \end{cases}$$

$$\begin{cases} a = 2 - b - c \\ b = \frac{4}{3} - \frac{4}{3}c \\ -\frac{8}{3}c = \frac{67}{3} \Rightarrow c = -\frac{67}{8} \end{cases}$$

$$\begin{cases} a = 2 - b - c \\ b = \frac{4}{3} - \frac{4}{3} \cdot \left(-\frac{67}{8}\right) \Rightarrow b = \frac{4}{3} + \frac{67}{6} \\ c = -\frac{67}{8} \end{cases}$$

$$\left\{ \begin{array}{l} a = 2 - \frac{75}{6} + \frac{67}{8} = \frac{48 - 300 + 201}{24} = -\frac{51}{24} \\ b = \frac{75}{6} \\ c = -\frac{67}{8} \end{array} \right. \quad (3)$$

$$\text{Orbit: } -\frac{51}{24}x^2 + \frac{75}{6}x - \frac{67}{8} = y$$

Задача 2

~~0,99%~~

~~100 кг - 99% = 1 кг сух. веш.~~

~~1 - 0,99 = 0,01~~

$$100 \cdot 0,99 = 99 \text{ кг веш.}$$

$$100 - 99 = 1 \text{ кг сух. веш.}$$

$$1 - 0,98 = 0,02 \text{ после сушки}$$

$$\frac{1}{0,02} = 50 \text{ кг}$$

Задача 3
Определение пожара фото.
Решить уравнение.

Решить уравнение.

7) $2^x = 256 \Rightarrow x = \log_2 256 = 8$

$$2) \quad 2^x = 300 \Rightarrow x = \log_2 300$$

3) $\log_8 2^{8x-4} = 4$

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$$\log_8 2^{8x-4} = \log_8 4096$$

$$2^{8x-4} = 4096$$

$$2^{8x-4} = 2^{12}$$

$$8x - 4 = 12$$

$$x = 2$$

~~$\log_3(5 \times 7)$~~
 ~~$\log_3 5$~~
 ~~$\log_3 7$~~
 ~~$\log_3(5 \times 5)$~~
 ~~$\log_3 5$~~
 ~~$\log_3 5$~~

$$4) \quad {}_3 \log_9 (5x-5) = 5$$

$$\text{OA } 3: \quad 5x-5 > 0$$

$$x > 1$$

$$\bullet \quad (5x-5) \log_9 3 = 5$$

$$\sqrt{5x-5} = 5$$

$$5x-5 = 25$$

$$x = 6$$

$$5) \quad x^{\log_3 x + 1} = 9$$

$$\text{OA } 3: \quad x > -1$$

$$\log_3 x^{\log_3 x + 1} = \log_3 9$$

$$(\log_3 x + 1) \cdot \log_3 x - \log_3 9 = 0$$

$$\log_3 x \rightarrow t$$

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

$$\Delta = 1 - 4 \cdot 1 \cdot (-2) = 9$$

$$t_{1,2} = \frac{-1 \pm 3}{2} = (-2; 1)$$

~~$$x_1 = \frac{1}{9}, x_2 = 3$$~~

4) Вспомогательное
свойство логарифмов
Вспомогательное:

$$6) \log_4 16 = 2$$

$$7) \log_5 \frac{1}{25} = -2$$

$$8) \log_{25} 5 = \frac{1}{2}$$

$$9) \log_3 \sqrt{27} = \frac{1}{2} \quad \log_3 27 = \frac{3}{2}$$

$$10) \log_2 12 - \log_2 3 = \log_2 4 = 2$$

$$11) \log_6 12 + \log_6 3 = \log_6 36 = 2$$

$$12) e^{\ln 5} = 5$$

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

~~14) $\log_4 32 + \log_4 10 =$~~
 ~~$\log_4 32 + \log_4 10 =$~~
 ~~$\log_4 320$~~

$$14) \log_4 32 + \log_{0.1} 10 =$$

$$\log_2 (2)^5 + \log_{10^{-1}} 10 =$$

$$\frac{5}{2} - 1 = \frac{3}{2}$$

$$15) 9^{\log_3 \sqrt{5}} = \text{[scribbled out]} \\ = 9^{\frac{1}{2} \log_3 5} = 3^{\log_3 5} = 5$$