

2. $1 - \log_c^{(ax-b)} \rightarrow (0, 2) / (-1/5, 0) \rightarrow 1 - \log_c^{-b} \cdot 2 \rightarrow$
 $\frac{1}{c} \cdot -b, b+c, -\frac{3}{2} \rightarrow [C_1 - 2, b \cdot \frac{1}{2}] \rightarrow 1 - \log_c^{ax - \frac{1}{2}}$
 $\rightarrow 1 - \log_c^{-1/5a} \cdot \frac{1}{2} \rightarrow -2, -1/5a - 0/5 \rightarrow [a, 1] \rightarrow \frac{1}{2}$
 (نمای تعاریر: $C = \frac{1}{c}, b = -2$)
 $\cdot (a+c)b \rightarrow \frac{1}{2}$ -3

(1, 5)

2. $1 + C \cdot 3^{a+bx} \rightarrow (0, \frac{2}{3}) / (1, 0) \rightarrow 1 + C \cdot 3^a \cdot \frac{2}{3} \rightarrow$
 $C \cdot 3^a \cdot -\frac{1}{3} \rightarrow [a_1 - 1, C_1 - 1] \rightarrow 1 + -3^{bx-1}$
 $1 + -3^{b-1} \rightarrow -3^{b-1} - 1 - b - 1 \cdot 0 \rightarrow [b, 1] \rightarrow \frac{8}{9}$
 $\rightarrow [f(-1), \frac{8}{9}]$

(2)

2. $C_1 \log_5^{ax+b} \rightarrow (0, 2) / (2/4, 0) \rightarrow C + \log_5^b \cdot 2$
 $\frac{b}{2/4a+b} \cdot 25 \rightarrow -\log_5 \frac{b}{2/4a+b} \cdot 2 \rightarrow \frac{-(C + \log_5^{2/4a+b})}{\log_5 b - \log_5^{2/4a+b}}$
 $L: 60a + 25b, b - \frac{a}{b} \cdot -\frac{24}{80} \rightarrow -0/4$

(2)

2. $\log_4(1/x^2 - 2/x) \rightarrow |x^2 - 2/x| > 0 \rightarrow x^2 - x - 2 > 0$
 $\rightarrow x^2 - x - 2 > 0 \rightarrow \frac{-1 \pm \sqrt{1+8}}{2} \rightarrow (-2, 1)$
 $\rightarrow x^2 + x - 2 < 0 \rightarrow \frac{-1 \pm \sqrt{1+8}}{2} \rightarrow (-2, 1)$
 $\rightarrow (-\infty, -\sqrt{2}] \cup (2, +\infty)$
 $\rightarrow (-\sqrt{2}, 1)$
 $D_y: \mathbb{R} - [1, 2]$

(2)

2. $2 + 2^{b-ax} \rightarrow (1, 4) / (-1, 10) \rightarrow 2 + 2^{b-a} \cdot 4 - 2^{b-a} \cdot 2$
 $b-a = 1 / 2 + 2^{b+a} \cdot 10 - 2^{b+a} \cdot 2 \rightarrow b+a = 3$
 $\rightarrow [b, 2, a, 1] \rightarrow 2b + a = 4 - 1 = 3$

(2)

$$y = -2 + \left(\frac{1}{2}\right)^{A+B} \rightarrow (1,0)/(2,2) \rightarrow -2 + \left(\frac{1}{2}\right)^{A+B} = -\left(\frac{1}{2}\right)^{A+B} + 2$$

$$\rightarrow A+B = -1 / -2 + \left(\frac{1}{2}\right)^{2A+B} = \left(\frac{1}{2}\right)^{2A+B} = 4 - 2A+B = 2$$

$$\rightarrow A = -1, B = 0 \rightarrow y = -2 + \left(\frac{1}{2}\right)^{-x} \rightarrow \boxed{f(3) = 6} \checkmark$$

$$y \left(\frac{8}{9}\right)^x = \frac{1}{8} y \frac{x \cdot h}{y \cdot \text{باصطلاح}} \frac{2^{3x}}{3^{2x}} \cdot \frac{1}{8} = 2^{3x+1} \cdot 3^{2x-1} \rightarrow \log_3$$

$$3x+1 \log_3 2 = 2x-1 \rightarrow \frac{\log_3 5}{\log_3 2} = \log_3 2 \rightarrow \frac{7}{12}$$

$$21x+7 = 24x-12 \rightarrow x = \frac{19}{3} h \rightarrow \boxed{380'} \checkmark$$

$$y \left(\frac{7}{8}\right)^x = \frac{1}{7} y \frac{x \cdot \text{حقیقی}}{y \cdot \text{باصطلاح}} \frac{7^x}{2^{3x}} = \frac{1}{7} = 7^{x+1} \cdot 2^{3x} \rightarrow \log_3$$

$$(x+1) \log_3 7 = 3x \log_3 2 \rightarrow \log_3 7 = \frac{1}{6} = \frac{10}{6}$$

$$\log_3 2 = \frac{1}{18} = \frac{10}{18}$$

$$80x+80 = 90x \rightarrow x = 8 \text{ حقیقی} \rightarrow \boxed{56'} \checkmark$$

$$\frac{1}{3} C_0 = C_0 \left(\frac{V-u}{V}\right)^n \frac{V \cdot 100 \text{ lit.}}{u \cdot 4} \cdot \frac{1}{3} = \frac{96^n}{100^n} \cdot \frac{2^{5n}}{3^n}$$

$$2^{5n} \cdot 3^{n+1} = 100^n \rightarrow \log_{10} 5n (\log 2) + (n+1) (\log 3) = 2n$$

$$\rightarrow 1/5n + 0/48n + 0/48 = 2n \rightarrow 0/48 = 0/62n \rightarrow \boxed{n = 24} \checkmark$$

