

۲۰

$$1 - \log_c^{-1, \Delta a - b} = 0 \quad -1, \Delta a - b = c$$

$$-\frac{c}{\Delta} a = b + c$$

$$1 - \log_c^{-b} = 2$$

$$-\frac{c}{\Delta} a = -\frac{c}{\Delta}$$

$$a = 1 \checkmark$$

$$\log_c^{-b} = -1 \quad -b = \frac{1}{c}$$

$$bc = -1$$

$$(a+c)b = \frac{c}{\Delta} x - 2 = -3 \checkmark$$

$$x^2 + \frac{c}{\Delta} x - 1 = 0$$

$$(x+2)(x-\frac{1}{\Delta}) = 0$$

$$x = -2 \quad x = \frac{1}{\Delta} \Rightarrow b = -2 \checkmark, c = \frac{1}{\Delta} \checkmark$$

$$c \times \Delta^a + 1 = \frac{\Delta}{\Delta}$$

$$c \times c^a = -\frac{1}{\Delta}$$

$$\Delta^b = \Delta \Rightarrow b = 1 \checkmark$$

$$c \times \Delta^{a+b} + 1 = 0$$

$$c \times \Delta^{a+b} = -1$$

$$f(-1) = c \times \Delta^{a-1} + 1 = \frac{c \times \Delta^a}{\Delta} + 1 = \frac{1}{\Delta} \checkmark$$

$$\log_a^b + c = 2$$

$$\log_a^b + \log_a^c = \log_a^{\Delta}$$

$$b \times \Delta^c = \Delta$$

$$\log_a^{2, \Delta a + b} + c = 0$$

$$\log_a^{2, \Delta a + b} + \log_a^c = \log_a^1 \quad (2, \Delta a + b) \Delta^c = 1$$

$$\frac{2, \Delta a + b}{b} = \frac{1}{\Delta}$$

$$\frac{2\Delta a}{\Delta b} + 1 = \frac{1}{\Delta}$$

$$\frac{2\Delta a}{\Delta b} = -\frac{2\Delta}{\Delta}$$

$$\frac{a}{b} = -\frac{1}{\Delta} \checkmark$$

$$|2x^2 - 2| - x > 0$$

برای  $x \leq 0$  بقرار است

$$x > 0 : x^2 - 4x^2 + 2 > x^2$$

$$x^2 - 4x^2 + 2 > 0$$

$$(2x^2 - 1)(x^2 - 2) > 0$$

$$\frac{-1 \pm 1}{2} < x < \frac{1 \pm 1}{2} \quad x > 2, 1 > x > 0$$

$$D_f = \mathbb{R} - [1, 2] \checkmark$$

$$\Delta^{b-a} + 2 = -1 - \Delta + \Delta$$

$$\Delta^{b+a} + 2 = 1$$

$$b - a = 1 \quad b + a = \Delta \Rightarrow b = 2 \checkmark, a = 1 \checkmark$$

$$\Delta^{b-a} = 2 \quad b - a = 1$$

$$\Delta^{b+a} = \Delta \quad b + a = \Delta$$

$$\Delta^{b-a} = \Delta - 1 = \Delta \checkmark$$

$$-2 + \left(\frac{1}{\Delta}\right)^{A+B} = 0$$

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

$$\left(\frac{1}{\Delta}\right)^{A+B} = 2 \Rightarrow A+B = -1$$

$$\left(\frac{1}{\Delta}\right)^{2A+B} = 2 \Rightarrow \begin{cases} 2A+B = -2 \\ A+B = -1 \end{cases} \Rightarrow \begin{cases} A = -1 \\ B = 0 \end{cases}$$

$$f(2) = -2 + \left(\frac{1}{\Delta}\right)^{-1 \times 2 + 0} = 4 \checkmark$$

$$\Delta^x \times \left(\frac{\Delta}{9}\right)^z = \frac{1}{9}$$

$$\frac{1}{\Delta} z - \frac{1}{9} z + \frac{\Delta}{9} + \frac{\Delta}{9} = 0$$

$$\Delta^{2z+1} \times \Delta^{-2z+1} = 1$$

$$10 \Delta z - 12 z + \Delta + \Delta = 0$$

$$\log_{\Delta}^{\Delta^{2z+1}} + \log_{\Delta}^{\Delta^{-2z+1}} = 0$$

$$10 \Delta z = 9 \Delta \quad z = \frac{9 \Delta}{10 \Delta} k = \frac{9 \Delta}{10} \times \Delta = \Delta \text{ No } \checkmark$$

$$\frac{\Delta}{9} (2z+1) + \frac{\Delta}{9} (-2z+1) = 0$$

(۲)

(۲)

(۲)

(۲)

(۲)

(۲)

(۲)

$$V \times \left(\frac{V}{\Lambda}\right)^t = \frac{1}{V} V \Lambda$$

$$V^{t+1} \times V^{-\Lambda t} = 1$$

$$\log_{V/\Lambda} V^{t+1} + \log_{V/\Lambda} V^{-\Lambda t} = 0$$

$$\frac{\Delta}{V} (t+1) + \frac{\Delta}{\Lambda} (-\Lambda t) = 0$$

$$\frac{\Delta}{V} t - \frac{\Delta}{\Lambda} t + \frac{\Delta}{V} = 0$$

$$t \Delta t - t_0 \Delta t = t_0$$

$$\Delta t = t_0$$

$$t = \Lambda \text{ سنة} = \Lambda \times V = \Delta \text{ جوز} \checkmark$$

$$100 \times \left(\frac{97}{100}\right)^t = \frac{1}{100} \times 100$$

$$100^{\Delta t} \times 100^{t+1} = 100^t$$

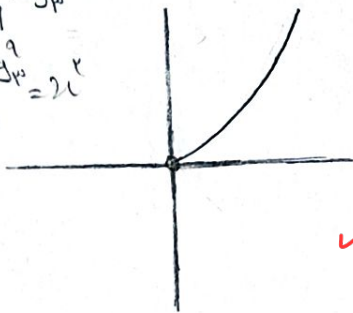
$$\log_{100} 100^{\Delta t} + \log_{100} 100^{t+1} = \log_{100} 100^t$$

$$\Delta t \times 0,2 + (t+1) \times 0,03 = t \times 0,03$$

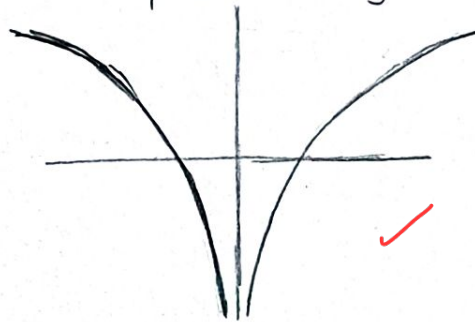
$$1, \Delta t + 0,03 t + 0,03 = 0,03 t$$

$$0,03 \Delta t = 0,03 t \quad t = \frac{\Delta t}{0,03} = 10 \Delta t \checkmark$$

الف)  $9^{\log_3 x}$   
 $= x^{\log_3 9} = x^2$   
 $x > 0$



ب)  $\log_3 x^2 = \begin{cases} x > 0: 2 \log_3 x \\ x < 0: 2 \log_3 -x = -2 \log_3 x \end{cases}$



(2)

-1

(2)

-9

-10

(2)