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$$b+c = -\frac{3}{2}$$

$$1 - \log_c(-\frac{3}{2}a - b) = 0 \Rightarrow c = -\frac{3}{2}a - b$$

(۲) -1

$$2 = 1 - \log_c^{-6}$$

$$\Rightarrow b+c = -\frac{3}{2}a$$

$$\Rightarrow -\frac{3}{2} = -\frac{3}{2}a \Rightarrow a=1$$

$$a=1$$

$$\Rightarrow \frac{1}{c} = -6 \Rightarrow b = -2$$

$$\Rightarrow b+c = -\frac{3}{2} \Rightarrow c = -\frac{1}{2}$$

$$\Rightarrow c^2 + \frac{3}{2}c - 1 = 0$$

$$c = \frac{-\frac{3}{2} \pm \sqrt{\frac{9}{4} + 4}}{2} \Rightarrow c = \frac{-\frac{3}{2} \pm \sqrt{\frac{25}{4}}}{2} \Rightarrow c = \frac{-\frac{3}{2} \pm \frac{5}{2}}{2}$$

$$c = \frac{1}{2}$$

$$(1 + \frac{1}{2})x - 2 = -\frac{3}{2}$$

$$0 = 1 + c \times \frac{1}{2} = \frac{1}{2} \Rightarrow c = -\frac{1}{2} \Rightarrow a+b = -\frac{1}{2} > 0 \Rightarrow \frac{1}{2} > 0 \Rightarrow c < \frac{1}{2}$$

$$2\frac{1}{2} = 1 + c \times \frac{1}{2} \Rightarrow -\frac{1}{2} = c \times \frac{1}{2} \Rightarrow c = -1 \Rightarrow a = -1$$

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$$a+b = \log_{\frac{1}{2}}^{-1} \Rightarrow -1+b=0 \Rightarrow b=1 \Rightarrow f(x) = 1 - |x|^{\frac{1}{2}} \Rightarrow f(-1)$$

$$\Rightarrow 1 - 1^{\frac{1}{2}} = 0 \Rightarrow \frac{0}{1}$$

$$0 = c + \log_{\omega}(\frac{3}{4}a + b) \Rightarrow \omega^{-c} = \frac{3}{4}a + b$$

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$$\log_{\omega} \omega + c = 2 \Rightarrow b = \omega^{-c} \Rightarrow b = \omega^2 \times \omega^{-c}$$

$$\Rightarrow b = \frac{3}{4}a + \frac{3}{4}b \Rightarrow \frac{1}{4}b = \frac{3}{4}a \Rightarrow \frac{1}{3} = \frac{a}{b}$$

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

$$|x^2 - 2| - x > 0 \rightarrow x^2 - x - 2 > 0 \rightarrow (x-2)(x+1) > 0$$

$$\frac{-1 \pm \sqrt{1+4}}{2} = \frac{-1 \pm \sqrt{5}}{2}$$

$$(-\infty, -1) \cup (2, +\infty)$$

$$|x^2 - 2| - x < 0 \rightarrow x^2 + x - 2 < 0 \rightarrow (x+2)(x-1) < 0$$

$$\frac{-2 \pm \sqrt{4+4}}{2} = \frac{-2 \pm \sqrt{8}}{2} = -1 \pm \sqrt{2}$$

$$(-1 - \sqrt{2}, 1 - \sqrt{2})$$

حالات دو قسمت ابتدا مع کاسه رسم ←  $(-1 - \sqrt{2}) \cup (2, +\infty) = D_f$

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$$g(x) \rightarrow - (1)^2 - 2(1) + 1 = -2$$

$$f = 2 + 2 \Rightarrow 4$$

$$b - a = 1 \Rightarrow a = 1$$

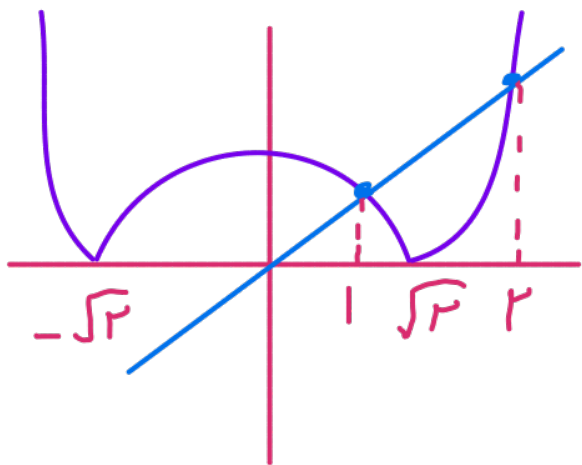
$$b - a = 2 \Rightarrow b + a = 2 \Rightarrow b = 2$$

$$f(x) - 1 = 4$$

$$y = (1)^2 - 1 = 0 \rightarrow 0 = -1 + 2^{-A-B} \Rightarrow A+B = -1 \Rightarrow B=0 \Rightarrow A=-1$$

$$y = (2)^2 - 2 = 2 \Rightarrow 2 = -2 + 2^{-2A-B} \Rightarrow 2A+B = -4$$

$$f(x) = -1 + 2^x \rightarrow f(x) = -1 + 2^x = \text{[scribble]} \quad A=2 = \text{[scribble]} \checkmark$$



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

جایگاه رو فرضواطمه تابع  $y = |x^2 - 2|$  بالاتر از  $y = x$  باشد.

$$(-\infty, 1) \cup (2, +\infty)$$

$$A = A_0 \cdot \left(\frac{1}{9}\right)^t \Rightarrow \frac{1}{4} A_0 = A_0 \left(\frac{1}{9}\right)^t$$

$$1 - \frac{1}{9} = \frac{\lambda}{9} \quad -\checkmark$$

$$\Rightarrow \frac{1}{4} = \left(\frac{1}{9}\right)^t \Rightarrow t = \log_{\frac{1}{9}} \frac{1}{4} \rightarrow t = \frac{\log \frac{1}{4}}{\log \frac{1}{9}}$$

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$$\Rightarrow t = \frac{\log 1 - \log 4}{\log 1 - \log 9} = \frac{0 - (\log 2 + \log 2)}{0 - (\log 3 + \log 3)}$$

$$\rightarrow \frac{0 - \left(\frac{1}{2} + \frac{1}{2}\right)}{0 - \left(\frac{1}{3} + \frac{1}{3}\right)} = t \rightarrow t = \frac{19 \times 2 \times 1}{18} \times \frac{10 \times 10}{10} = \frac{19 \times 2 \times 1}{18} \times \frac{10 \times 10}{10} \quad \checkmark$$

$$\frac{1/2}{100} = \frac{1}{K} \rightarrow 1 - \frac{1}{K} = \frac{\lambda}{K}$$

-\checkmark

$$A = A_0 \left(\frac{K}{K}\right)^t \Rightarrow \frac{A_0}{2} = A_0 \left(\frac{K}{K}\right)^t \Rightarrow \frac{1}{2} = \left(\frac{K}{K}\right)^t \Rightarrow \log_{\frac{K}{K}} \frac{1}{2} = t$$

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$$\Rightarrow -\log \frac{1}{2} = t \Rightarrow \frac{\log 1 - \log 2}{\log K - \log K} = t$$

$$\rightarrow \frac{-\log 2}{\log K - \log K} = t \Rightarrow \frac{-\log 2}{\log 4 - \log 4} = \frac{\log 2}{\log 4} = \frac{\log 2}{2 \log 2} = \frac{1}{2} = t \quad \checkmark$$

$$100 \left(1 - \frac{2}{100}\right)^n = \frac{1}{3}$$

$$100 \left(1 - \frac{2}{100}\right)^n = \frac{1}{3}$$

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(2)

$$100 \left(1 - \frac{2}{100}\right)^n = \frac{1}{3} \Rightarrow \left(1 - \frac{2}{100}\right)^n = \frac{1}{300}$$

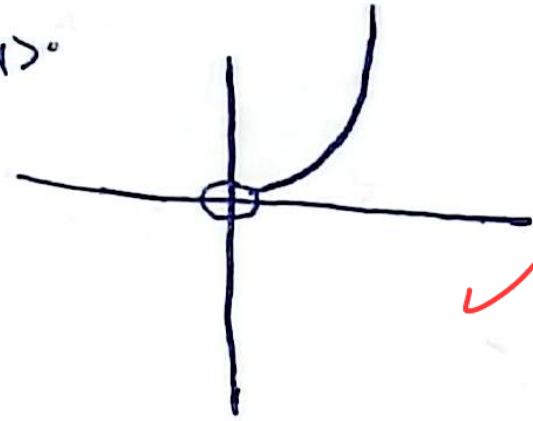
$$\ln \left(1 - \frac{2}{100}\right)^n = \ln \frac{1}{300}$$

$$\Rightarrow \frac{-n \log \frac{98}{100}}{\log 300} = -\log 300$$

$$\Rightarrow \frac{n \log \frac{100}{98}}{\log 300} = \log 300$$

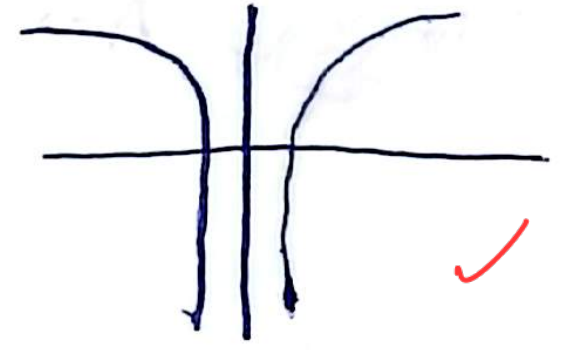
$$\Rightarrow \frac{n \log 100 - \log 100^n}{\log 300} = \log 300$$

$y = 2^x$      $y = \log_2 x$      $\Rightarrow$      $x = 2^y$      $y = \log_2 x$



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$y = \log_2 x$



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