

۱۵، ۵

دنیایابی

$$y = \frac{1}{3}x^2 + \frac{2}{3}x + 1 \Rightarrow \frac{-b}{2a} = \frac{-\frac{2}{3}}{\frac{2}{3}} \Rightarrow \left(\frac{3}{2}\right) \quad (1)$$

$$\frac{1}{3}\left(\frac{3}{2}\right)^2 + \left(\frac{2}{3}\right)\left(\frac{3}{2}\right) + 1 = \frac{1}{3} \cdot \frac{9}{4} + \frac{2}{3} \cdot \frac{3}{2} + 1 = \frac{3}{4} + 1 + 1 = \frac{11}{4}$$

$$\Delta = b^2 - 4ac = \left(\frac{2}{3}\right)^2 - 4 \cdot \frac{1}{3} \cdot 1 = \frac{4}{9} - \frac{4}{3} = \frac{4}{9} - \frac{12}{9} = -\frac{8}{9}$$

$$\frac{2}{3} \pm \sqrt{\frac{11}{4}} = \frac{2}{3} \pm \frac{\sqrt{11}}{2}$$

$$\frac{-\frac{2}{3} \pm \sqrt{\frac{11}{4}}}{\frac{2}{3}} = \frac{-\frac{2}{3} \pm \frac{\sqrt{11}}{2}}{\frac{2}{3}} \Rightarrow \text{نقاط بحرانی}$$

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

مقادیر سهمی در صلب رأس آن در نقطه آن

$$y=0 \rightarrow (x-2)^2 = 9 \rightarrow x-2 = \pm 3 \rightarrow x = 5 \text{ or } x = -1$$

$$\begin{vmatrix} 1 & 2 \\ 2 & 1 \end{vmatrix} \rightarrow \begin{vmatrix} 1 & 2 \\ 2 & 1 \end{vmatrix} = 1 - 4 = -3 \neq 0$$

$$x+2=1 \rightarrow x=-1$$

$$1-1 = -1 = \beta \quad \frac{1}{3}x - 1 = \frac{1}{3}$$

$$x = \frac{1}{3} + 1 = \frac{4}{3}$$

$$x+2 = \frac{4}{3} \Rightarrow x = \frac{4}{3} - 2 = -\frac{2}{3}$$

$$D_{f(x)}(a, b) \rightarrow D_{f(x+1)} = (a+1, b)$$

$$D_g = [-1, b] \Rightarrow D_{g(x+1)} = [-2, b-1] \Rightarrow$$

$$[-2, b-1] \cap [a+1, 5] \Rightarrow (-2, 5) \cap [a+1, 5]$$

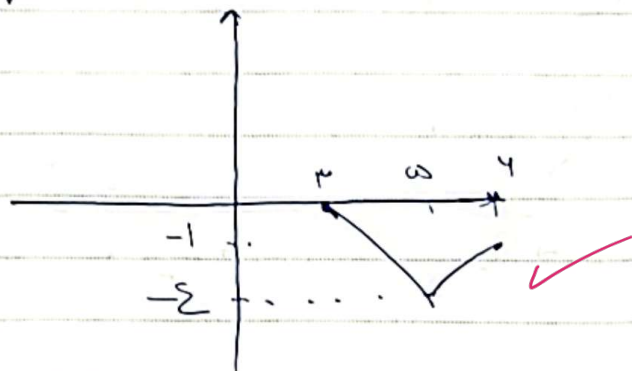
$$-2 = a+1 \Rightarrow a = -3$$

$$b-1 = 5 \Rightarrow b = 6$$

$$1 - f(u) \stackrel{(1)}{=} \frac{u-1}{u} \quad 1 - f(u+1) \stackrel{(2)}{=} \frac{u}{u+1}, \quad 1 - f(u-1) \stackrel{(3)}{=} \frac{u-2}{u-1}$$

$$\frac{f(u-1)}{f(u)} \stackrel{(4)}{=} \frac{u-2}{u-1} \quad \frac{f(u)}{f(u+1)} \stackrel{(5)}{=} \frac{u+1}{u}$$

$$f(u-1) = 1$$

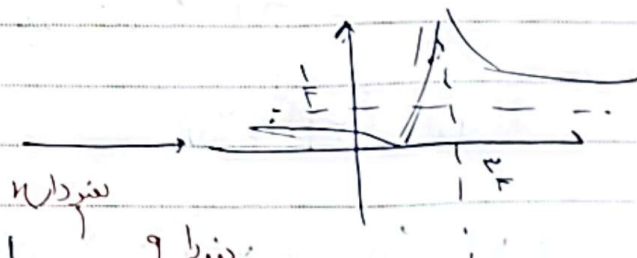


$$f(u) = \frac{u+1}{2u+1} \quad \frac{(u+1)+1}{2(u+1)+1} \rightarrow \frac{u+2}{2u+3}$$

$$\frac{u-1}{2u-2} \xrightarrow{\text{ادامه دهنده}} \frac{u-1}{2u-2} + 1 = g(u) \Rightarrow \textcircled{1}$$

$$u + g(u) < 0 \Rightarrow g(u) < -u$$

$$g(u) - 1 =$$



ادامه دهنده

$$g(u) < -u$$

$$\frac{u-1}{2u-2} = -u$$

$$\frac{u-1+2u^2-2u}{2u-2} = 0$$

$$2u^2 - 2u - 1 = 0$$

$$2u - 2 = 0$$

$$\Rightarrow -1 \pm \sqrt{12} \quad \Rightarrow \frac{-1 \pm \sqrt{12}}{2} \Rightarrow \frac{-1 \pm 2\sqrt{3}}{2} \Rightarrow -1 \pm \sqrt{3}$$

$$(4, \sqrt{3})$$

$$\left| \frac{x-1}{x-1} \right| < -1-x \rightarrow \frac{x-1}{x-1} + (1+x) < .$$

$$\frac{x^2-1}{x-1} < . \quad \frac{-\sqrt{x} \quad \sqrt{x} \quad \sqrt{x}}{-1+1-1+1} \quad \textcircled{1} \rightarrow x(-\sqrt{x})$$

جواب تدریس مثبت است
 $\textcircled{1} x < -1$

$$(x - \frac{1}{x} + \frac{1}{x})$$

جواب تدریس

$$\sqrt{f(x)(1-f(x))} \Rightarrow (x - \frac{1}{x} + \frac{1}{x})(1 - (x - \frac{1}{x} + \frac{1}{x}))$$

$$-1 \leq x \leq 1 \Rightarrow [-1, 1]$$

$$f(x) = k(x-1)^2 + \frac{1}{x} \xrightarrow{(\cdot)} k < \frac{1}{x} \Rightarrow f(x) \leq \frac{1}{x}$$

$$f(x) < 0 \rightarrow x < 0$$

$$f(x) < \frac{1}{x} \rightarrow x < \frac{1}{x} \rightarrow x < \frac{1}{x}$$

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