

کتابخانه / تلف ۷ / حافظه رفت A

$$D_f = [-2, 4] \quad D_f\left(\frac{3a+2}{5}\right) = ? \quad (1)$$

$$-2 \leq \frac{3a+2}{5} \leq 4 \quad -10 \leq 3a+2 \leq 20 \quad -12 \leq 3a \leq 18$$

$$-4 \leq a \leq 6 \quad D_f\left(\frac{3a+2}{5}\right) = [-2, 4]$$

$$D_f(3a-2) = [-2, 3] \quad D_f = ? \quad (2)$$

$$-2 \leq 3a-2 \leq 3 \quad -4 \leq 3a \leq 5 \quad -1 \leq a-2 \leq 1$$

$$D_f = [-1, 1]$$

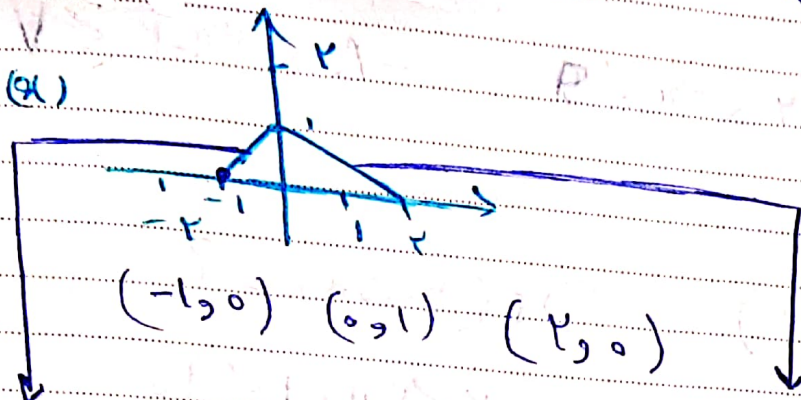
$$D_f\left(\frac{3a+1}{4}\right) = [-1, 3] \quad D_f(2-5a) = ? \quad (3)$$

$$-1 \leq \frac{3a+1}{4} \leq 3 \quad -4 \leq 3a+1 \leq 12 \quad -2 \leq 3a \leq 11$$

$$-1 \leq \frac{3a+1}{4} \leq 3 \quad D_f = [-1, 3] \rightarrow -1 \leq 2-5a \leq 3$$

$$-3 \leq -5a \leq 4 \quad \frac{3}{5} \geq a \geq -\frac{4}{5} \quad D_f(2-5a) = \left[-\frac{3}{5}, \frac{30}{5}\right]$$

$f(x)$



$(-1, 0) \quad (0, 1) \quad (2, 0)$

$$a = \frac{0-1}{2-0} = -\frac{1}{2}$$

$$a_2 = \frac{1-0}{0-(-1)} = 1 \rightarrow y_2 = x+1$$

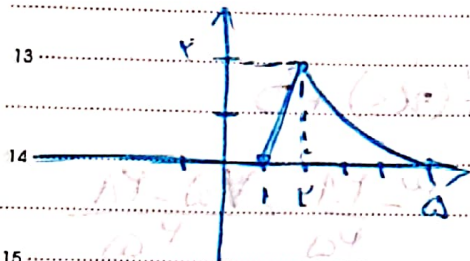
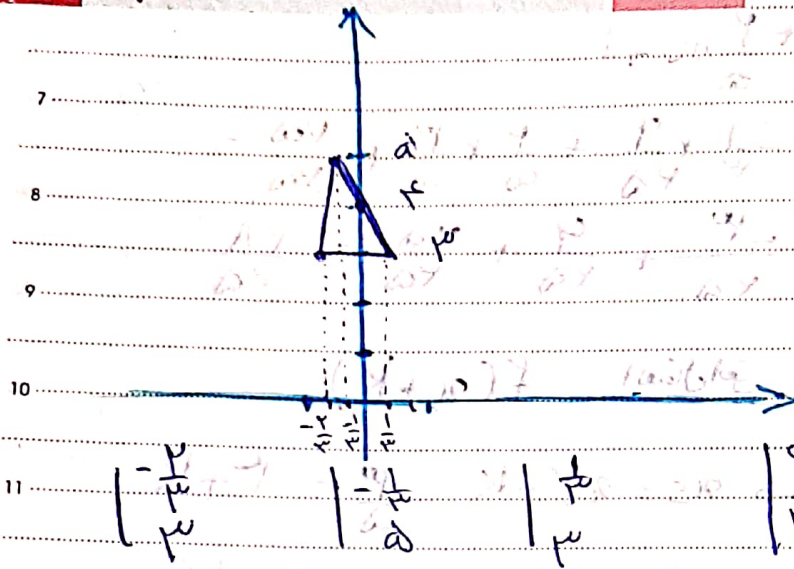
$$y = -\frac{1}{2}x + 1$$

$$f(x) = \begin{cases} x+1 & -1 \leq x < 0 \\ -\frac{1}{2}x+1 & 0 \leq x \leq 2 \end{cases}$$

$$f(x_{k+1}) = \begin{cases} x_{k+1}+1 & -1 \leq x_{k+1} < 0 \\ -\frac{1}{2}(x_{k+1})+1 & 0 \leq x_{k+1} \leq 2 \end{cases}$$

$$f(x_{k+1}) = \begin{cases} x_{k+1}+1 & -\frac{1}{2} \leq x_{k+1} < -\frac{1}{2} \\ -\frac{1}{2}x_{k+1} + \frac{1}{2} & -\frac{1}{2} \leq x_{k+1} \leq \frac{1}{2} \end{cases}$$

$$2f(x_{k+1}) + 1 = \begin{cases} 4x_{k+1} + 1 & -\frac{1}{2} \leq x_{k+1} < -\frac{1}{2} \\ -x_{k+1} + 1 & -\frac{1}{2} \leq x_{k+1} \leq \frac{1}{2} \end{cases}$$

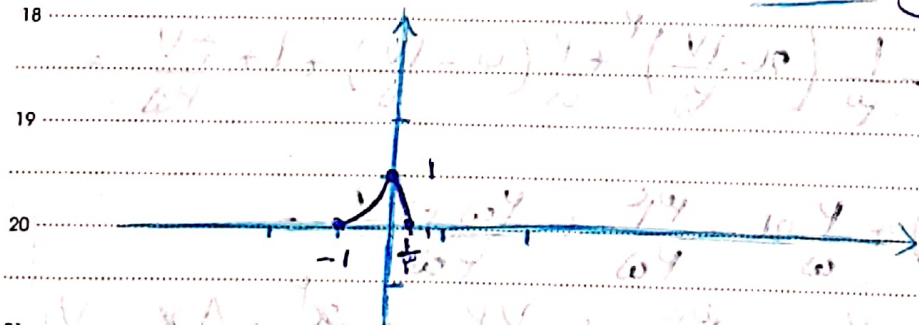


$$f(1) = 0 \quad f(2) = 1 \quad f(5) = 0$$

$$f(x - \tau a) = f(1) \quad x - \tau a = 1 \quad a = \frac{1}{\tau} \quad y = \frac{1}{\tau} f(1) = 0$$

$$f(x - \tau a) = f(2) = 1 \quad x - \tau a = 2 \quad a = 0 \quad y = \frac{1}{\tau} f(2) = \frac{1}{\tau} = 1$$

$$f(x - \tau a) = f(5) \quad x - \tau a = 5 \quad a = -1 \quad y = \frac{1}{\tau} f(5) = 0$$



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$$f(x) = -\frac{1}{x^2}x^2 + \frac{1}{\omega}x + 1$$

$$x_s = \frac{-1}{\omega} = \frac{\mu}{\omega} \quad y_s = -\frac{1}{x^2} \times \frac{9}{2\omega} + \frac{1}{\omega} \times \frac{\mu}{\omega} + \frac{2\omega}{2\omega} = \quad (4)$$

$$S \begin{vmatrix} \frac{2}{\omega} \\ \frac{21}{2\omega} \end{vmatrix} S' \begin{vmatrix} \mu \\ \mu \end{vmatrix} \quad \frac{-\mu}{2\omega} + \frac{9}{2\omega} + \frac{2\omega}{2\omega} = \frac{21}{2\omega}$$

$f(x)$ انعطاف، $f(x+k)$

$$f(x_s) = f(x_s' + k) \rightarrow x_s = x_s' + k \quad \frac{\mu}{\omega} = k + k$$

$$k = \frac{\mu}{\omega} - k = \frac{\mu - \mu}{\omega} = -\frac{14}{\omega} \quad f(x) \rightarrow f(x - \frac{14}{\omega})$$

$$f(x) \text{ انعطاف} \rightarrow f(x) + b \quad y_s' = f(x_s) + b$$

$$\mu = f\left(\frac{\mu}{\omega}\right) + b \quad \mu = \frac{21}{2\omega} + b \quad b = \frac{\mu - \frac{21}{2\omega}}{2\omega} = \frac{2\omega - 21}{2\omega}$$

$$b = \frac{2\omega - 21}{2\omega} \quad f(x) \rightarrow f(x) + \frac{2\omega - 21}{2\omega}$$

$$f(x) \rightarrow f\left(x - \frac{14}{\omega}\right) + \frac{2\omega - 21}{2\omega}$$

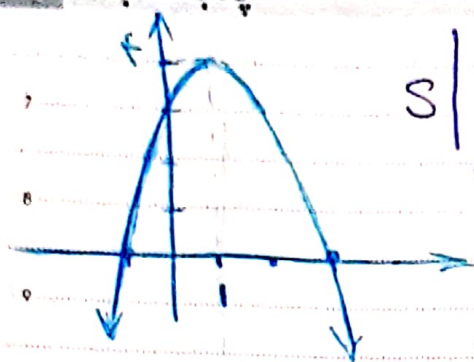
$$f\left(x - \frac{14}{\omega}\right) + \frac{2\omega - 21}{2\omega} = -\frac{1}{x^2} \left(x - \frac{14}{\omega}\right)^2 + \frac{1}{\omega} \left(x - \frac{14}{\omega}\right) + 1 + \frac{2\omega - 21}{2\omega} =$$

$$-\frac{1}{x^2} \left(x^2 - \frac{28}{\omega}x + \frac{196}{\omega^2}\right) + \frac{1}{\omega}x - \frac{14}{\omega^2} + \frac{2\omega - 21}{2\omega} =$$

$$-\frac{x^2}{x^2} + \frac{28}{1\omega}x - \frac{196}{2\omega^2} + \frac{1}{\omega}x - \frac{14}{\omega^2} + \frac{2\omega}{2\omega} - \frac{21}{2\omega} = -\frac{x^2}{x^2} + \frac{1}{\omega}x - \frac{1}{\omega}$$

$$-\frac{x^2}{x^2} + \frac{1}{\omega}x - \frac{1}{\omega} = 0 \rightarrow -\frac{1}{x^2} (x^2 - 1x + 1) = 0$$

$$-\frac{1}{x^2} (x-1)(x-1) = 0 \rightarrow x = 1, 1$$



$$S \mid \begin{cases} x_S = 1 \\ y_S = x \end{cases}$$

$$f(1) = x$$

$$f(x+1) = f(1) \quad x+1 = 1$$

$$x'_S = 1 \quad x'_S = -\frac{1}{x} \quad x = -\frac{1}{x}$$

$$y'_S = 1 - x f(1) = 1 - x \cdot x = 1 - 1 = -x \quad \beta = -x$$

$$\alpha \beta = (-x) \left(-\frac{1}{x}\right) = \frac{1}{x}$$

$$Df = (a, x)$$

$$f: a < x-1 < x$$

$$y = f(x-1) + g(x+1)$$

$$Dg = [-1, b)$$

①

$$Dy = (-2, d)$$

$$-1 < x+1 < b$$

$$a+1 < x \leq d$$

$$-2 < x < b-1$$

$$Dy = Df(x-1) \cap Dg(x+1)$$

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

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

$$b-1 = d \quad b = 4$$

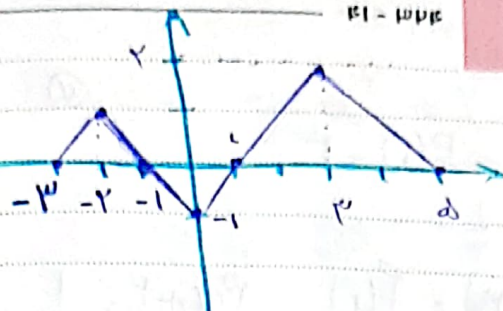
$$a-b = -3-4 = -7$$

پس $a+1 = -2$ و $b-1 = d$ جزای Dy باشد

پس $a-b = -3-4 = -7$ جزای Dy باشد

30.04.2005

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$$: f\left(\frac{x}{2}+1\right)$$

(9)

$$f\left(-\frac{3}{2}+1\right)=0 \quad f\left(-\frac{1}{2}\right)=0 \quad 2f\left(-\frac{1}{2}\right)-3=-3$$

$$f\left(-\frac{1}{2}+1\right)=1 \quad f(0)=1 \quad 2f(0)-3=-1$$

$$f\left(-\frac{1}{2}+1\right)=0 \quad f\left(\frac{1}{2}\right)=0 \quad 2f\left(\frac{1}{2}\right)-3=-3$$

$$f(0+1)=-1 \quad f(1)=-1 \quad 2f(1)-3=-5$$

$$f\left(\frac{1}{2}+1\right)=0 \quad f\left(\frac{3}{2}\right)=0 \quad 2f\left(\frac{3}{2}\right)-3=-3$$

$$f\left(\frac{3}{2}+1\right)=1 \quad f\left(\frac{5}{2}\right)=1 \quad 2f\left(\frac{5}{2}\right)-3=+1$$

$$f\left(\frac{5}{2}+1\right)=0 \quad f\left(\frac{7}{2}\right)=0 \quad 2f\left(\frac{7}{2}\right)-3=-3$$

$$2f(x)-3:$$

$$y_2 = \sqrt{|2f(x)-3|}$$

$$|2f(x)-3|:$$

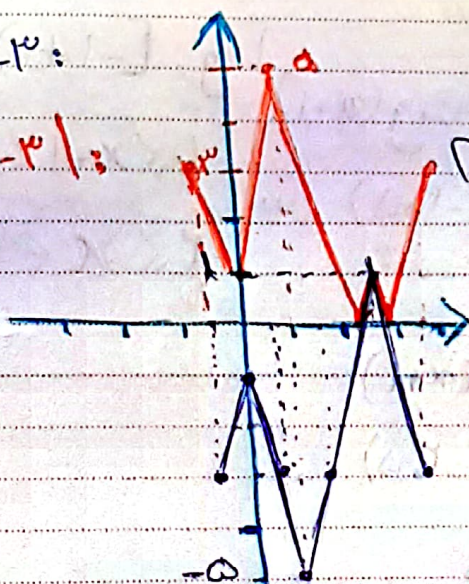
$$D_{y_2} = |2f(x)-3| \geq 0$$

همواره برقرار است

$$R_2 = [0, \omega]$$

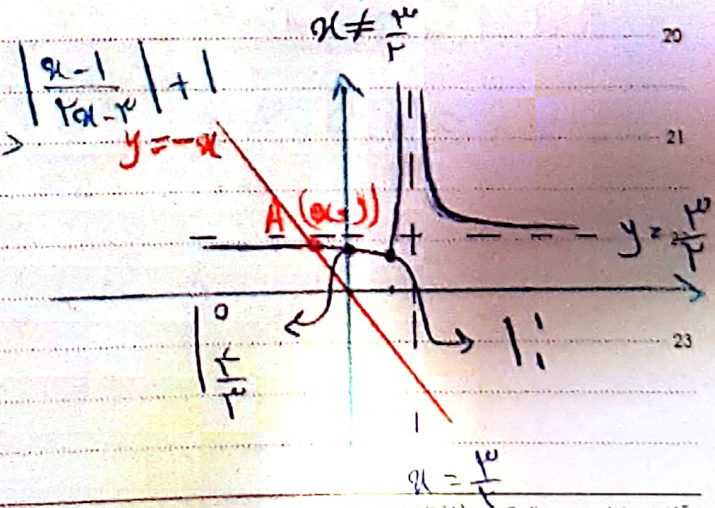
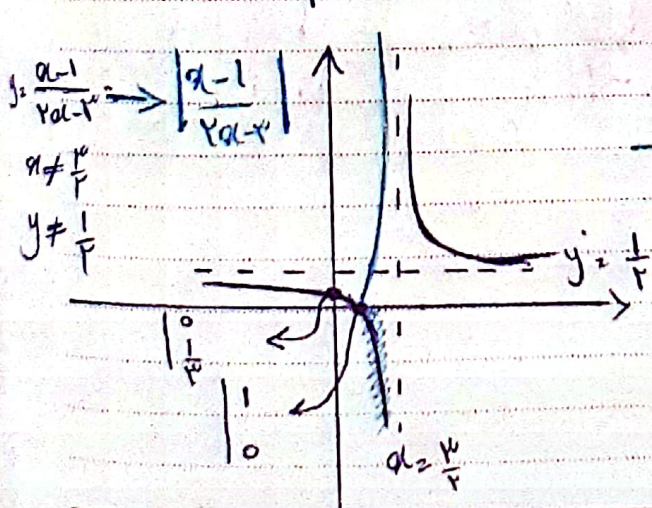
$$D_{y_2} = \left[-\frac{1}{2}, \frac{3}{2}\right]$$

$$R_{y_2} = \sqrt{[0, \omega]} = [0, \sqrt{\omega}]$$



$$f(x) = \left| \frac{x+1}{2x+1} \right| \rightarrow \left| \frac{(x-2)+1}{2(x-2)+1} \right| + 1 = \left| \frac{x-1}{2x-3} \right| + 1$$

(10)



$$x + g(x) < 0 \quad g(x) < -x \quad \left| \frac{x+1}{2x-3} \right| + 1 < -x$$

فقط بخورید $A(x, y)$

$-x$ و $g(x)$

$$-x = \left| \frac{x-1}{2x-3} \right| + 1$$

(از این عوارض کسب می‌کنیم)

در حل مسئله از روش (اس) پس داخل قدر مطلق را از بین ببریم.

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

$$(-x-1)(2x-3) = (1-x)$$

$$-2x^2 + 3x + 2x - 3 = 1 - x$$

$$2x^2 - 2x - 4 = 0$$

$$x^2 - x - 2 = 0$$

$$\Delta = 1 - 4(-1) = 5$$

$$x = \frac{1 \pm \sqrt{5}}{2} \quad x < 0 \quad x = \frac{1 - \sqrt{5}}{2}$$

$$g(x) < -x \rightarrow x < xA \rightarrow x < \frac{1 - \sqrt{5}}{2}$$

$$x \in \left(-\infty, \frac{1 - \sqrt{5}}{2} \right)$$