

تعريف

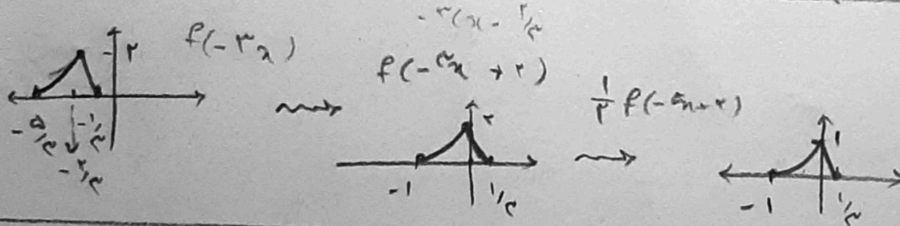
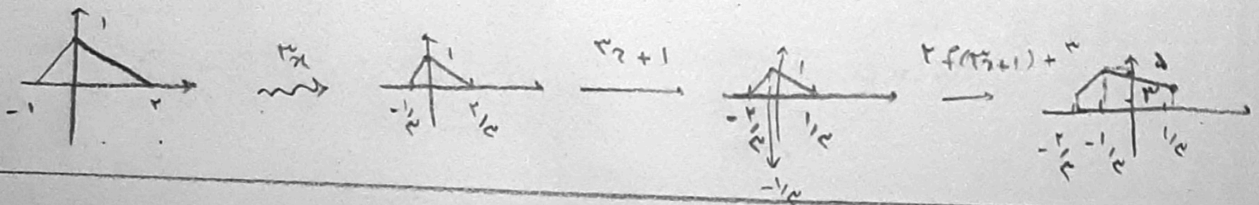
دارد هم فته A

نام دانشجو: ...

$$- \frac{r_2}{2} \leq \frac{r_2 + r}{2} \leq \frac{r_2}{2} \rightsquigarrow - \frac{1}{2} \leq x \leq \frac{1}{2} \Rightarrow D_f = [-\frac{1}{2}, \frac{1}{2}]$$

$$- \frac{r_2}{2} \leq r \Rightarrow - \frac{1}{2} \leq x - r \leq \frac{1}{2} \Rightarrow D_f = [-x, x]$$

$$- \frac{1}{2} \leq x \leq \frac{1}{2} \Rightarrow - \frac{1}{2} \leq \frac{r_2 + r}{2} \leq \frac{1}{2} \Rightarrow D_f = [-\frac{1}{2}, \frac{1}{2}] \rightsquigarrow - \frac{1}{2} \leq x - \frac{r_2}{2} \leq \frac{1}{2} \Rightarrow \frac{r_2}{2} \leq x \leq \frac{r_2}{2} \Rightarrow D = [-\frac{r_2}{2}, \frac{r_2}{2}]$$



$$y = - \frac{1}{2} (x - \frac{r_2}{2})^2 + \frac{r_1}{2} \rightsquigarrow (\frac{r_2}{2}, \frac{r_1}{2})$$

$$y + k = - \frac{1}{2} [(x - h) - \frac{r_2}{2}]^2 + \frac{r_1}{2} \rightsquigarrow y = - \frac{1}{2} (x - \frac{r_2}{2})^2 + \frac{r_1}{2}$$

$$k = \frac{r_1}{2} - \frac{r_2}{2} = \frac{r_1 - r_2}{2} \quad h = \frac{r_2}{2} = \frac{1}{2}$$

$$y = - \frac{1}{2} (x - \frac{r_2}{2})^2 + \frac{r_1}{2} \Rightarrow x = \frac{r_2}{2} \pm \sqrt{\frac{r_1 - y}{2}}$$

$$\downarrow$$

$$x = 1 \leq x \leq \frac{r_2}{2}$$

$$f(x) = \frac{1}{x} \rightsquigarrow y = 1 - x f(x + r) \Rightarrow f(x + r) = \frac{1 - y}{x}$$

$$\Rightarrow \omega = A \left| \begin{matrix} -1/2 \\ -1 \end{matrix} \right| \rightsquigarrow x$$

$$\Rightarrow x = -1/2 \quad \rightsquigarrow = t \Rightarrow y = -1$$

$$D_f(x+1) \rightarrow a < x+1 \leq r \Rightarrow a+1 < x \leq r$$

$$D_g(x+1) \rightarrow -1 \leq x+1 \leq b \Rightarrow -2 \leq x \leq b-1$$

$$\left. \begin{matrix} a+1 < x \leq r \\ -2 \leq x \leq b-1 \end{matrix} \right\} \xrightarrow{\text{مقابل}} [-r, a] \Rightarrow \begin{matrix} b-1 \leq a \Rightarrow b \leq r \\ a+1-r \Rightarrow a \leq r-1 \end{matrix}$$

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

$\omega_{\text{min}}^{1/2} : -\frac{1}{4} \leq x \leq 0 \Rightarrow -\frac{1}{4} \leq \frac{1}{4}x^2 + 1 \leq \frac{5}{4} \Rightarrow \omega_{\text{min}}^f \in [-1/4, 5/4]$

برای $R_{f(n)}$ و $R_{f(n+1)} = [-1, 2] \Rightarrow -1 \leq 2f(x) - 1 \leq 2$ چون قدر
 $\cdot 1 \leq 2f(x) - 1 \leq 2 \Rightarrow R = [0, 3]$
 منطقه
 در راستای x هم
 ادامه.

مثال: $\left| \frac{x-1}{x-2} \right| + 1 \rightarrow x+1 + \left| \frac{x-1}{x-2} \right| < \Rightarrow x+1 < 0 \Rightarrow x < -1$ *

$x-1 < 0$ $\Rightarrow$ درون قدرمطلق $\rightarrow$ $x+1 + \frac{x-1}{x-1} < 0 \Rightarrow 2x-2 < 0 \Rightarrow x < 1$
 $x-3 < 0$ $\Rightarrow$ بیرون قدرمطلق $\rightarrow$ $x+1 - \frac{x-1}{x-3} < 0 \Rightarrow \frac{x^2-2x+4}{x-3} < 0$

$$\frac{r^2 - c}{r - c} = r$$

$$\Rightarrow \frac{r(r - \sqrt{r})(r + \sqrt{r})}{r - c} = r$$

$$\frac{r}{r - c}$$

$$x > -\sqrt{2} \quad \text{و} \quad x < \sqrt{2} \quad \text{فإن } x \in (-\sqrt{2}, \sqrt{2})$$