

۱۹, ۷۵

$$D_{f(n)} = [-2, 2] \quad 1) f\left(\frac{x+2}{\omega}\right) \rightarrow -2 \leq \frac{x+2}{\omega} \leq 2 \quad -10 \leq x+2 \leq 10$$

$$-12 \leq x \leq 18 \rightarrow -14 \leq x \leq 16 \rightarrow 1) f\left(\frac{x+2}{\omega}\right) = [-14, 16]$$

(۲)

۱

$$1) f_{(x-2)} = [-2, 2] \rightarrow -2 \leq x \leq 2 \quad -14 \leq x \leq 16 \quad -14 \leq x+2 \leq 16$$

$$1) f_{(x)} = [-14, 16]$$

(۲)

۲

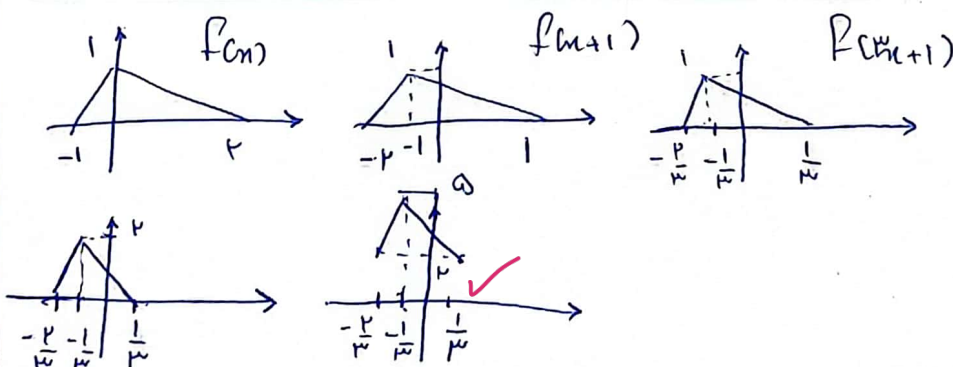
$$D_{f\left(\frac{x+1}{\omega}\right)} = [-1, 3] \rightarrow -1 \leq x < 3 \rightarrow -2 \leq x+1 < 4$$

$$-1 \leq \frac{x+1}{\omega} < 3 \quad 1) f_{(x-\omega)} \rightarrow -1 \leq x-\omega < 3 \quad -3 \leq -\omega x < 4$$

$$-14 \leq x < 0 \rightarrow 1) f_{(x-\omega)} = [-14, 0]$$

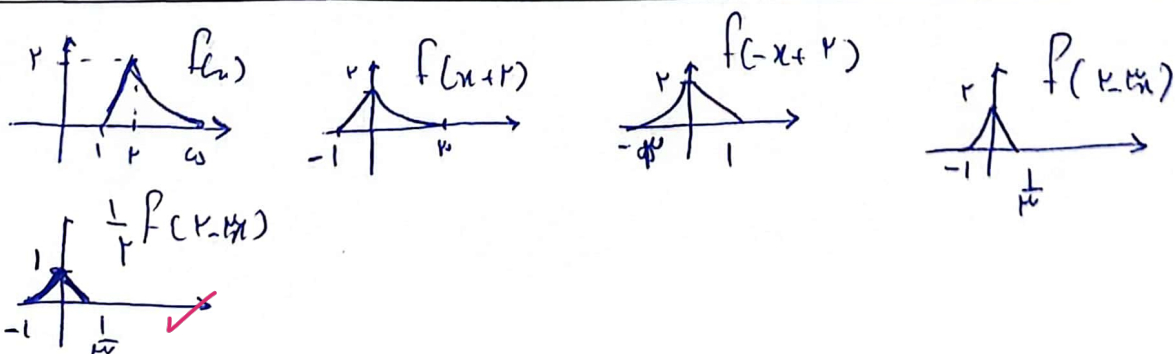
(۲)

۳



(۲)

۴



(۲)

۵

از اینجا به نقطه‌ی دار را انتقال افقی و عمودی داریم پس منبسط می‌شود و به این می‌رسیم
نقطه‌ی دار انتقال یافته را می‌نویسیم:

$$y = -\frac{1}{\mu}(x-\varepsilon)^2 + \mu = -\frac{x^2}{\mu} + \frac{1}{\mu}x + \frac{14}{\mu} + \frac{9}{\mu} = -\frac{x^2}{\mu} + \frac{1}{\mu}x - \frac{7}{\mu}$$

$$-\frac{x^2}{\mu} + \frac{1}{\mu}x - \frac{7}{\mu} = 0 \rightarrow x^2 - 1x + 7 = 0 \quad \Delta = 1 - 28 = -27 < 0 \rightarrow \text{قطع نمی‌کند}$$

$$y = a(x-1)^2 + \varepsilon \xrightarrow{x=1} a = -1 \quad -(x-1)^2 + \varepsilon = f(x)$$

$$y = 1 - 2f(x_{n+1}) = 1 - 2(-(x_{n+1})^2 + \varepsilon) = 1 + 2(x_{n+1})^2 - 1$$

$$2(x_{n+1})^2 - 1 = 2(x_n^2 + x_{n+1}) - 1 = 2x_n^2 + 2x_{n+1} - 1$$

$$\alpha = \frac{-12}{12} = -1 \quad \beta = \frac{-1}{2\alpha} = -\frac{1}{-2} = \frac{1}{2} \quad \alpha/\beta = -2 \quad \alpha/\beta = +\frac{1}{2}$$

$$D_f = (a, \varepsilon] \quad D_g = [-1, b) \quad y \in f(x_{n-1}) + g(x_{n+1}) \rightarrow D = [-2, \omega)$$

$$D_{f(x_{n-1})} = (a+1, \omega] \quad D_{g(x_{n+1})} = [-2, b-1) \quad D_{f(x_{n-1})} \cap D_{g(x_{n+1})} = (a+1, b-1)$$

$$a = -1 \quad b = 5 \quad a-b = -6$$

$$y_1 = f(x_{\frac{1}{p}} + 1) \quad D_{f(x_{\frac{1}{p}} + 1)} = [-\frac{1}{p}, \omega] \quad -\frac{1}{p} + 1 \leq x_{\frac{1}{p}} + 1 \leq \frac{\omega}{p} + 1$$

$$D_{(x_{\frac{1}{p}} - \frac{1}{p})} = [-\frac{1}{p}, \frac{1}{p}] \quad R_{f(x)} = [-1, 2] \quad -\frac{1}{p} \leq x_{\frac{1}{p}} + 1 \leq \frac{1}{p}$$

$$|x_{\frac{1}{p}} - \frac{1}{p}| \leq \omega \quad \Rightarrow \sqrt{|x_{\frac{1}{p}} - \frac{1}{p}|} \leq \sqrt{\omega} \quad R_f = [0, \sqrt{\omega}]$$

$$f(x_n) = \left| \frac{x_n+1}{x_n-1} \right| \rightarrow g(x_n) = \left| \frac{x_n-1}{x_n-1} \right| + 1 = \left| \frac{x_n-1}{x_n-1} \right| + 1$$

$$\left| \frac{x-1}{x-1} \right| + 1 < 0 \quad \left\{ \begin{array}{l} 1 < x < \frac{\mu}{p} \\ x < 1, x > \frac{\mu}{p} \end{array} \right. \rightarrow \frac{x^2-1}{x-1} > 0 \quad \frac{x^2-1}{x-1} < 0$$

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

-v

$$\text{رأس} \begin{vmatrix} 1 \\ 2 \end{vmatrix} \Rightarrow \begin{cases} 2\alpha + 2 = 1 \rightarrow \alpha = -\frac{1}{2} \Rightarrow \alpha = -\frac{1}{2} \\ y = 1 - 2f(1) = 1 - 2(f) = -v \Rightarrow \beta = -v \end{cases} \Rightarrow \alpha\beta = \boxed{\frac{v}{2}}$$