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(سوال ۱) (۲)

$$- \varepsilon < \frac{n+1}{\omega} < \varepsilon \rightarrow -\omega \varepsilon < n+1 < \omega \varepsilon \rightarrow -\omega \varepsilon < n < \omega \varepsilon \rightarrow -\omega \varepsilon < n < \omega \varepsilon = D_{f(n)}$$

(سوال ۲) (۲)

$$- \varepsilon < n < \varepsilon \rightarrow -\varepsilon < n < \varepsilon \rightarrow -\omega \varepsilon < n < \omega \varepsilon \rightarrow D_f = [-\omega \varepsilon, \omega \varepsilon] \checkmark$$

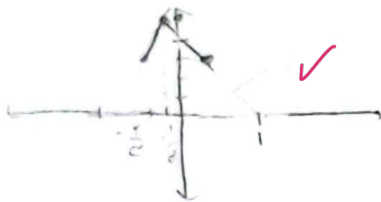
(سوال ۳) (۲)

$$- \varepsilon < n < \varepsilon \rightarrow -\varepsilon < n+1 < \varepsilon \rightarrow -\varepsilon < \frac{n+1}{\omega} < \varepsilon$$

$$- \varepsilon < \omega n < \varepsilon \rightarrow -\varepsilon < \omega n < \varepsilon \rightarrow -\frac{\varepsilon}{\omega} < n < \frac{\varepsilon}{\omega} \rightarrow D_f = \left(-\frac{\varepsilon}{\omega}, \frac{\varepsilon}{\omega}\right) \checkmark$$

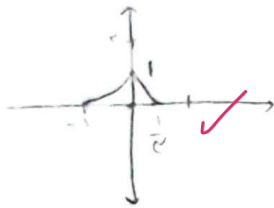
(سوال ۴) (۲)

$$- \varepsilon < n+1 < \varepsilon \rightarrow -\varepsilon < n < \varepsilon \rightarrow -\frac{\varepsilon}{\omega} < n < \frac{\varepsilon}{\omega}$$



$$n+1 = 0 \rightarrow n = -1$$

$$- \varepsilon < \omega n < \varepsilon \rightarrow -\varepsilon < \omega n < \varepsilon \rightarrow -\frac{\varepsilon}{\omega} < n < \frac{\varepsilon}{\omega}, \quad \omega n = \varepsilon \rightarrow n = \frac{\varepsilon}{\omega}$$



(سوال ۵) (۲)

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

$$- n^2 + 2n - 1 = 0 \Rightarrow -(n-1)(n-1) = 0 \Rightarrow n = 1 \checkmark$$

$$n+1 \leq 1 \rightarrow n \leq -1 \Rightarrow \alpha = -1, \quad \beta = \{x-1+1 = -1\}$$

$$\alpha \beta = \frac{1}{\omega} \checkmark$$

$$f(n-1) \Rightarrow \alpha < n-1 < \varepsilon \Rightarrow D_f = [\alpha+1, \omega]$$

(سوال ۶) (۲)

$$g(n+1) \Rightarrow -1 < n+1 < b \Rightarrow D_g = \{-1, b-1\}$$

$$(\alpha+1, \omega) \cap \{-1, b-1\} = (-1, \omega) \rightarrow \alpha = -1, \quad \beta = b-1 \checkmark$$

$$g(x) = \sqrt{|x f(x) - c|} \rightarrow |x f(x) - c| \geq 0 \rightarrow \text{مربعاً} \Rightarrow Dg = Df \quad \text{(سوال ٢)}$$

$$h(x) = f\left(\frac{x}{v} + 1\right) \rightarrow D_h = [-c, d] \Rightarrow -c \leq \frac{x}{v} + 1 \leq d \Rightarrow \frac{x}{v} \leq d - 1 \Rightarrow x \leq v(d - 1)$$

$$\Rightarrow Dg = Df = \left[-\frac{1}{v}, \frac{v}{v}\right]$$

$$R_f = [-1, 1] \Rightarrow -1 \leq x f(x) - c \leq 1 \Rightarrow \sqrt{|x f(x) - c|} \leq \sqrt{1}$$

$$R = [0, \sqrt{1}] \checkmark$$

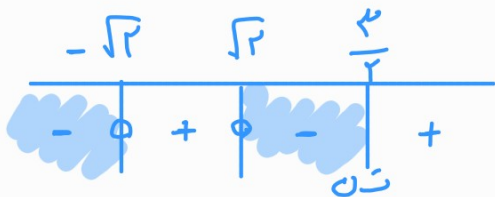
سوال ٥.

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

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

از این قدر مطلق بزرگتر شده پس باید مثبت باشد : $-1-x > 0 \rightarrow x < -1$

$$\xrightarrow{x < -1} \frac{x-1}{2x-3} < -1-x \rightarrow \frac{2x^2-4}{2x-3} < 0 \rightarrow \frac{2(x-\sqrt{2})(x+\sqrt{2})}{2x-3} < 0$$



$$\xrightarrow{x < -1} x < -\sqrt{2} \rightarrow (-\infty, -\sqrt{2})$$