

نام و نام خانوادگی: (النباعه بنی) پاسخنامه تشریحی تکلیف شماره ۷ کلاس: (روز چهارشنبه) B

$Df_{(n)} [-2, 2]$ $Df\left(\frac{x_{n+2}}{\omega}\right)?$

$$-2 \leq \frac{x_{n+2}}{\omega} \leq 2 \rightarrow -1 \leq x_{n+2} \leq 2 \rightarrow -12 \leq x_n \leq 18 \rightarrow -4 \leq x \leq 4$$

$$Df\left(\frac{x_{n+2}}{\omega}\right) = [-4, 4]$$

$Df(x)?$

$$Df(x_{n-2}) = [-2, 3]$$

↓

$$-2 \leq x \leq 3 \rightarrow -4 \leq x_n \leq 6 \rightarrow -18 \leq x_{n-2} \leq 18$$

$$Df(x) = [-18, 18]$$

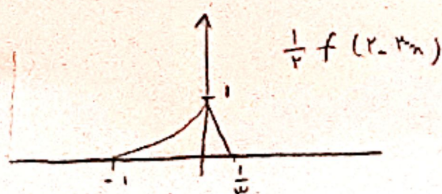
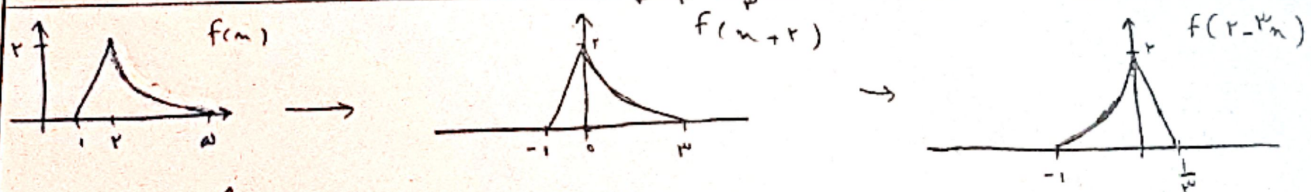
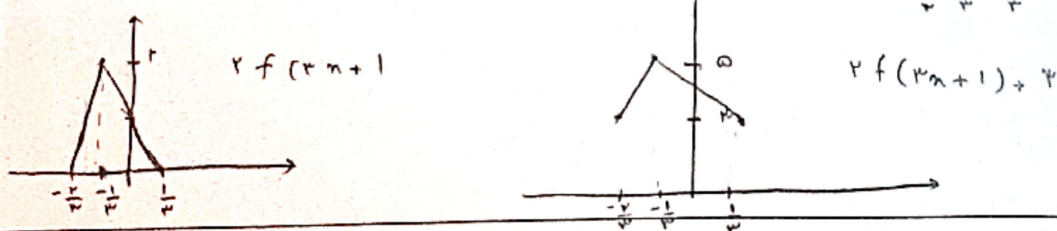
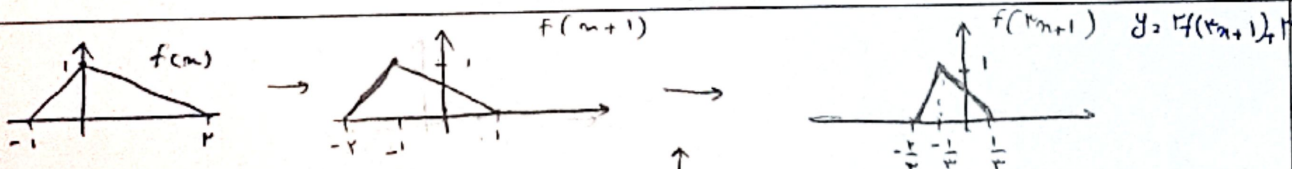
$Df(x-\omega n)?$

$$Df\left(\frac{x_{n+1}}{\gamma}\right) = [-1, 3]$$

$$-1 \leq x < 3 \rightarrow -3 \leq x_n < 9 \rightarrow -12 \leq x_{n+1} < 18 \rightarrow -1 \leq \frac{x_{n+1}}{\gamma} < \omega$$

$$-1 \leq \gamma - \omega n < \omega \rightarrow -3 \leq -\omega n < 3 \rightarrow \frac{\gamma}{\omega} \geq x > -\frac{\gamma}{\omega}$$

$$Df(\gamma - \omega n) = \left(-\frac{\gamma}{\omega}, \frac{\gamma}{\omega}\right)$$



$$y = -\frac{1}{r}x^r + \frac{r}{\omega}x + 1 = -\frac{1}{r}\left(x - \frac{r}{\omega}\right)^r + \frac{r\omega}{r\omega} - \frac{1}{r}\left(x - \frac{r}{\omega}\right)^r + \frac{r}{\omega}$$

$$= -\frac{1}{r}x^r - \frac{14}{r} + \frac{1}{r}x + 1 = -\frac{1}{r}x^r + \frac{1}{r}x - \frac{13}{r} = -\frac{1}{r}(x^r - x + 13)$$

$$= -\frac{1}{r}(x - 1)(x - 1) \rightarrow \text{عوضه } x \text{ ب } 1 \text{ و } x \text{ ب } 1 \text{ و } x \text{ ب } 1$$

$$y = 1 - r f(rn + r)$$

$$f(1) = r \rightarrow rn + r = 1 \rightarrow n = -\frac{1}{r} = \alpha$$

$$y' = 1 - \underbrace{r f(1)}_{\alpha} = -\alpha = \beta$$

$$\alpha \times \beta = -\frac{1}{r} \times (-r) = \boxed{\frac{1}{r}}$$

$$Df(m) : (a, \varepsilon] \rightarrow Df(m-1)? \rightarrow a < m-1 \leq \varepsilon \rightarrow a+1 < m \leq \omega$$

$$Dg(m) : [-1, b) \rightarrow Dg(m+1)? \rightarrow -1 \leq m+1 < b \rightarrow -r \leq m < b-1$$

$$Df(m-1) \cap Dg(m+1) = (a+1, \omega] \cap [-r, b-1) = (-r, \omega)$$

$$\Rightarrow a+1 = -r \rightarrow a = -r-1$$

$$b-1 = \omega \rightarrow b = \omega+1$$

$$a, b = -r-1, \omega+1 \rightarrow \boxed{-9}$$

$$-3 \leq x \leq \omega \rightarrow -\frac{r}{r} \leq \frac{x}{r} \leq \frac{\omega}{r} \rightarrow -\frac{1}{r} \leq \frac{x}{r} + 1 \leq \frac{\omega}{r} \rightarrow Df(m) = \left[-\frac{1}{r}, \frac{\omega}{r}\right]$$

$$Rf\left(\frac{x}{r} + 1\right) = Rf(m) = [-1, r] \Rightarrow -1 \leq f(m) \leq r \rightarrow -r \leq rf(m) \leq 2$$

$$\rightarrow -\omega \leq rf(m) - r \leq 1$$

$$\rightarrow 0 \leq |rf(m) - r| \leq \omega$$

$$\rightarrow 0 \leq \sqrt{|rf(m) - r|} \leq \sqrt{\omega}$$

$$R\sqrt{|rf(m) - r|} = [0, \sqrt{\omega}]$$

$$f(m) = \left| \frac{m+1}{rm+1} \right| \xrightarrow{m \rightarrow \infty} \left| \frac{(n-r)+1}{r(n-r)+1} \right| = \left| \frac{n-1}{rn-r} \right| \xrightarrow{n \rightarrow \infty} \left| \frac{n-1}{rn-r} \right| + 1 = g(n)$$

$$n + g(n) < 0 \rightarrow \left| \frac{n-1}{rn-r} \right| + 1 + n < 0 \rightarrow \frac{n-1}{rn-r} + 1 + n < 0 \rightarrow \frac{n^2 - n + r(n-1) + (rn-r) + (n+1)(rn-r)}{r(n-r)} < 0$$

$$\frac{1}{+} - \frac{r}{+} + \frac{r}{+} +$$

$$\begin{matrix} n < 1 \\ n > \frac{r}{r} \end{matrix}$$

$$\frac{n-1}{rn-r} + 1 + n < 0 \rightarrow \frac{r(n-\sqrt{r})(n+\sqrt{r})}{rn-r} < 0$$

$$\frac{-\sqrt{r}}{-\frac{1}{r} + \frac{r}{r} - \frac{r}{r}} \rightarrow \boxed{(-\infty, -\sqrt{r})}$$