

$$f(n) = (n+1)^r + (n-1)^r + mn^r + n\alpha + mn$$

(2) (1)

$$n^r + 1 + 2n + 9n^r + 1 - 4n + mn^r + n\alpha + mn \Rightarrow$$

$$(10+m)n^r + (n-\alpha)n + 2+mn \Rightarrow 10+m=0 \Rightarrow m=-10$$

$$n-\alpha=0 \Rightarrow n=\alpha$$

$$g(n) = \left\{ \left(\begin{matrix} -10 \\ \kappa, m \end{matrix} \right) \left(\begin{matrix} \kappa \\ n, P+1 \end{matrix} \right) (P+2, -1) (-9, P+\kappa) \right\}$$

$$P+1=-10 \Rightarrow P=-11$$

$$-11+2=-9 \Rightarrow P+\kappa=-1$$

$$\kappa=10 \Rightarrow -11+\kappa=-1$$

$$m+n+P+\kappa \Rightarrow \kappa-10-11+10=-11 \checkmark$$

$$\text{ايف) } \sqrt{\frac{n-5}{n^2-2n^r-1}}$$

$$\Rightarrow n^2-2n^r-1 \xrightarrow{n^r=t}$$

(1,2) (2)

$$+2-2t-1 \Rightarrow (t-2)(t+2) \Rightarrow$$

$$t=2, -2 \Rightarrow n^r=2 \Rightarrow$$

$$n=\pm 2$$

$$(-2, +\infty) - \{2\} = D_f \checkmark$$

$$\frac{n^r+1}{2-2[-n]} \Rightarrow 2-2[-n] \neq 0 \Rightarrow$$

$$2 \neq 2[-n] \Rightarrow 2 \neq [-n]$$

$$D_f = \mathbb{R} - (-2, -1]$$

$$[-n]=2 \rightarrow 2 \leq -n < 3 \rightarrow -3 < n \leq -2$$

$$D_f \subset \mathbb{R} - (-3, -2]$$

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$$ii) f(n) = \frac{\sqrt{n(n^2-1)}}{\sqrt{|n|+n}} = \frac{n(n^2-1)}{\sqrt{|n|+n}} = \frac{n(n+1)(n-1)}{\sqrt{|n|+n}} \quad (3)$$

(2)

$$\frac{-1}{-1+1} \frac{0}{0+0} \frac{1}{1+1} \quad (2)$$

$$|n|+n > 0 \Rightarrow |n| > -n \Rightarrow \mathbb{R}^+ \quad (1)$$

$$(1), (2) \Rightarrow [1, +\infty) = D_f \quad \checkmark$$

$$1) \frac{\sqrt{|n-2|-n^2}}{|n|-1} \Rightarrow |n-2|-n^2 \geq 0$$

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

$$\begin{aligned} -n^2 - n + 2 &\geq 0 \\ -(n+2)(n-1) &\geq 0 \\ n &= -2, 1 \end{aligned}$$

$$-n^2 + n - 2 \geq 0$$

X

نمی توانیم حل کنیم

$$|n|-1 \neq 0 \Rightarrow |n| \neq 1 \Rightarrow n \neq \pm 1$$

$$D_f = [-2, 1) - \{-1\} \quad \checkmark$$

$$g = \frac{1}{||n-2|-1|-k}$$

$$||n-2|-1|-k \Rightarrow ||n-2|-1| \neq k \quad (4)$$

$$|n-2|-1 \neq k$$

$$n-2 \neq k+1 \Rightarrow n \neq k+3$$

$$n \neq -k+3 \Leftrightarrow n-2 \neq -k+1$$

$$n-2 \neq -k-1 \Rightarrow n \neq -k+1$$

$$n \neq k+1 \Leftrightarrow n-2 \neq k-1$$

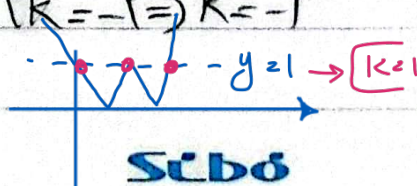
$$k+3 = -k+3 \Rightarrow 2k=0 \Rightarrow k=0$$

$$k+1 = -k+3 \Rightarrow 2k=2 \Rightarrow k=1$$

$$k+3 = -k+1 \Rightarrow 2k=-2 \Rightarrow k=-1$$

$$k+1 = -k+1 \Rightarrow 2k=0 \Rightarrow k=0$$

$$k = \{-1, 0, 1\}$$



ک جواب قدر مطلق است
نمی تواند ضعیف باشد

$$if \ k < 0 \rightarrow |x-2| = 1 \rightarrow \text{جواب 2}$$

$$if \ k < 1 \rightarrow |x-2| = 2 \rightarrow \text{جواب 3} \quad \checkmark$$

$$y = r_n - [n]$$

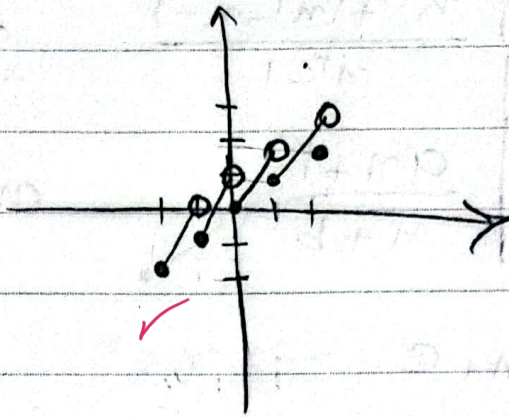
$$-r \leq n < -1 \Rightarrow y = -r$$

$$-1 \leq n < 0 \Rightarrow y = -1$$

$$0 \leq n < 1 \Rightarrow y = 0$$

$$1 \leq n < r \Rightarrow y = 1$$

$$r = n \Rightarrow y = r$$



$$f(n) = \frac{n^r - rn + r}{n+a} + b$$

$$\frac{n^r - rn + r}{n+a} + b = n \Rightarrow n^r - rn + r + bn + ab = n^r + an$$

$$(b-a-r)n + r + ab = 0$$

$$ab = -r \quad b-a = +r \Rightarrow b = r+a$$

$$(a+r)a = -r \Rightarrow a^2 + ra + r = 0 \Rightarrow (a+1)(a+r) = 0$$

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

$$a = -1, -r$$

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

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

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

$$-r \times r = -r$$

$$f(n) = \begin{cases} \frac{n^r + rn^r - n - r}{n^r - 1} & n \neq \pm 1 \\ \frac{an + r}{n + b} & n = \pm 1 \end{cases} \quad \textcircled{V}$$

$$g(n) = n + c \rightsquigarrow n + r$$

$$\xrightarrow{n=r} \frac{n^r + rn^r - n - r}{n^r - 1} \Rightarrow \frac{1 + 1 - r - r}{1 - 1} = \frac{1r}{r} = 1$$

$$\rightsquigarrow g(r) = r + c = 1 \Rightarrow c = 1 - r \quad \checkmark$$

$$g(n) = n + r \xrightarrow{n=1} 1 + r = r \rightsquigarrow \frac{an + r}{n + b} \xrightarrow{n=1} \frac{a + r}{1 + b} = r$$

$$r + rb = a + r \Rightarrow 1 = a - rb \quad \textcircled{1}$$

$$g(n) = n + r \xrightarrow{n=-1} -1 + r = 1 \rightsquigarrow \frac{an + r}{n + b} \xrightarrow{n=-1} \frac{-a + r}{-1 + b} = 1$$

$$-a + r = -1 + b \Rightarrow r = a + b \quad \textcircled{2}$$

$$\textcircled{1}, \textcircled{2} \Rightarrow -rb = -r \Rightarrow b = \frac{1}{r}, a = \frac{r}{r}$$

$$b + c = \frac{1}{r} + 1 - r = \frac{1}{r} \quad \checkmark$$

$$f(m) = \sqrt{k - \epsilon a} + k - 1$$

$$g(m) = \sqrt{b - \epsilon n} + \epsilon k \quad D_f = \epsilon n - \epsilon a \geq 0 \Rightarrow$$

$$\epsilon n \geq \epsilon a \Rightarrow n \geq \frac{\epsilon a}{\epsilon}$$

$$f - g = f(1, k)$$

$$D_g = b - \epsilon n \geq 0 \Rightarrow b \geq \epsilon n$$

$$\frac{b}{\epsilon} \geq n$$

$$\frac{b}{\epsilon} = 1 \Rightarrow b = \epsilon \quad \checkmark \text{ الرمز المذكور } n = 1 \text{ بالرمز المذكور}$$

$$\frac{\epsilon a}{\epsilon} = 1 \Rightarrow \epsilon a = \epsilon \Rightarrow a = \frac{\epsilon}{\epsilon} \quad \checkmark$$

$$1\sqrt{\epsilon n - \epsilon} + 1k - 1 - \sqrt{\epsilon - \epsilon n} - \epsilon k = k \stackrel{n=1}{=} 0$$

$$1\sqrt{\epsilon - \epsilon} + 1k - 1 - \sqrt{\epsilon - \epsilon} - \epsilon k = k \Rightarrow -1 - k = k \Rightarrow$$

$$1k = -1 \Rightarrow k = -1$$

$$\epsilon a - \frac{b}{\epsilon} - k = \epsilon - 1 + 1 = 0 \quad \checkmark$$

$$f(m) = \sqrt{m - n} + n$$

$$g(m) = \sqrt{2n + 1}$$

$$\textcircled{2} \textcircled{9}$$

$$D_{f \times g} = [-1, \sqrt{2}]$$

$$m + n = 1$$

$$2n \geq -1 \Rightarrow n \geq -1$$

$$f - g(1) = 4\sqrt{1}$$

$$m - n \geq 0 \Rightarrow m \geq n \Rightarrow m = 1 \quad \sqrt{1 - n + n}$$

$$\sqrt{1 - 1} + 1 - \sqrt{2 + 1} = 4\sqrt{1} \Rightarrow 1 + 1 - \sqrt{3} = 4\sqrt{1}$$

$$n = \sqrt{1 - 1} \rightarrow m + n = 1\sqrt{1} - 1 + 1 = 1 + 1\sqrt{1}$$

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$$[-2, 2]$$

$$y = (-1)^n (n - [n]) = \frac{1}{p} \Rightarrow (1)(n - [n]) = \frac{1}{p}$$

$$n - [n] = \frac{1}{p}$$

ک با ارتفاع می کند

