

Sub:

تکلیف شده است. A ۱۸:۳۰ الی ۱۹:۳۰ هر جمعه

$$y = \frac{n+2}{\sum n^3 - 20n^2 + 31n - 14} = \frac{\sum n^3 - 20n^2 + 31n - 14}{-\sum n^3 + \sum n^2} \quad | \quad n-1 \quad (1)$$

جمع ضرایب = 0

$$n=1$$

بر $n-1$ به عبارت

$$\begin{aligned} & -14n^2 + 31n \\ & + 14n^2 + 14n \end{aligned}$$

$$14n - 14$$

$$-14n + 14$$

$$D_p = R - \left\{ \frac{3}{4}, \frac{0}{4}, 1 \right\}$$

$$y = \frac{n+2}{(\sum n^3 - 14n + 14)(n-1)} = \frac{n+2}{-(n-5)(n-4)(n-1)}$$

$$\frac{2n-1 \times 14}{1}$$

$$2n-5=0 \quad 2n=5$$

$$\left(n = \frac{5}{2} \right)$$

$$2n-4=0 \quad 2n=4$$

$$\left(n = \frac{4}{2} \right)$$

$$n-1=0 \quad (n=1)$$

$$y = \frac{n+3}{\sum n^3 - n^2 - 14n - 8}$$

جمع ضرایب ضرایب زوج

$$n=-1$$

بر $n+1$ به عبارت

$$\frac{\sum n^3 - n^2 - 14n - 8}{\sum n^3 - \sum n^2} \quad | \quad n+1$$

$$- \sum n^3 - 14n$$

$$+ \sum n^3 + \sum n^2$$

$$- \sum n - 8$$

$$+ \sum n + 8$$

0

$$D_p = R - \left\{ -\frac{5}{4}, -1, 1 \right\}$$

$$y = \frac{n+3}{(\sum n^3 - 8n - 8)(n+1)} = \frac{n+3}{(\sum n^3 + 2)(n-2)(n+1)}$$

تجزیه

$$(\sum n^3 + 2)(n-2)$$

$$\sum n^3 + 2 = 0 \quad \sum n = -2$$

$$\left(n = -\frac{2}{2} \right)$$

$$n-2=0 \quad (n=2)$$

$$n+1=0 \quad (n=-1)$$

Sub:

الف) $y = \frac{n+1}{n - \sqrt{r-rn}}$

① $\sqrt{r-rn} > 0$
 $r-rn > 0$

② $n - \sqrt{r-rn} \neq 0$

$rn \leq r$

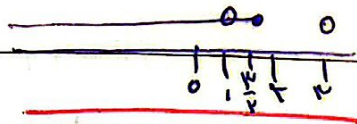
$P_f = \left[\frac{r}{r}, \frac{r}{r} \right] - \{1\}$

$\sqrt{r-rn} \neq n$

$n \leq \frac{r}{r}$

$r-rn \neq n^r$

$n^r + rn - r \neq 0$



$(n+1)(n+r) \neq 0$

$n \neq -1, -r$

ب) $y = \frac{n+r}{n - \sqrt{rn-r}}$

① $rn-r \geq 0$

$rn \geq r$

② $n - \sqrt{rn-r} \neq 0$

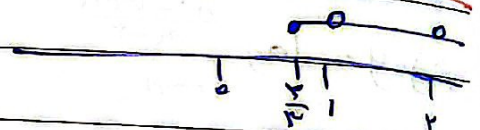
$n \geq \frac{r}{r}$

$P_f = \left[\frac{r}{r}, +\infty \right) - \{1, r\}$

$\sqrt{rn-r} \neq n$

$rn-r \neq n^r$

$n^r - rn + r \neq 0$



$(n-1)(n-r) \neq 0$ $n \neq 1, r$

الف) $\sqrt{\frac{n^r - (n+r)}{n^r - 1}}$

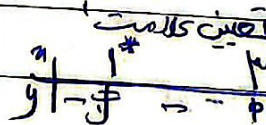
$n^r - (n+r) = (n-1)(n-r)$

$\frac{(n-1)(n-r)}{n^r - 1} \geq 0$

$n^r - 1 \neq 0$

$n^r \neq 1$

$n \neq 1$



$P_f = \left[\frac{r}{r}, +\infty \right)$

ب) $y = \sqrt{\frac{n^r - (n+r)}{n^r - 1}}$

$n^r - 1 \neq 0$

$n^r \neq 1$

$n \neq \pm 1$

$P_f = \mathbb{R} - \{\pm 1\}$

s.a.m

Sub:

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الف) $y = \log(n^2 - 3n)$ $n^2 - 3n > 0$ (E)

$n(n-3) > 0$ $\frac{n}{y} \frac{p}{p} \frac{r}{p}$

$D_f = (-\infty, 0) \cup (3, +\infty)$

ب) $y = \log \frac{14-n^2}{|n|-2}$ $(\xi+n)(\xi-n) > 0$

$\frac{n}{y} \frac{-\xi}{p} \frac{\xi}{p}$

$|n|-2 > 0$

$(-2, 2)$

$|n| > 2$

$n > 2, n < -2$

$|n|-2 \neq 1$

$|n| \neq 2$

$n \neq \pm 2$

$D_f = (-2, -1) \cup (-1, -2) \cup (2, 2) \cup (2, 2)$

ج) $y = \log \frac{n^2 - 1 + 1}{n-1}$ $\frac{(n-1)(n-1)}{n-1} > 0$

$\frac{n}{y} \frac{r}{p} \frac{\xi}{p}$

$10-n > 0$

$(n < 10)$

$10-n \neq 1$

$(n \neq 9)$

$D_f = (\xi, 10) - \{9\}$

$(\xi, 9)(9, 10)$

المسألة

$\sqrt{n^2 - 11 + 21} + \log \sqrt{n^2 - 11 + 21}$

$\sqrt{n^2 - 11 + 21} > 0$ $n > 0$

$(4-n)(4+n) > 0$ $n \neq 1$

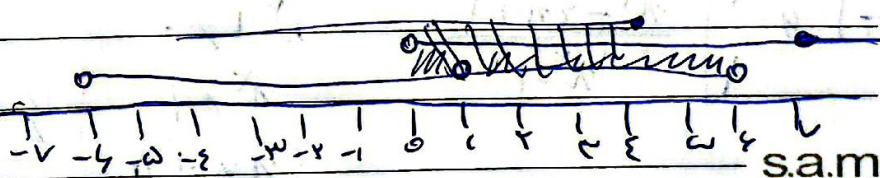
$\frac{n}{y} \frac{-4}{p} \frac{4}{p}$
 $(-4, 4)$

$D_f = (0, \xi] - \{1\}$

$(n-\xi)(n-1) \geq 0$

$\frac{n}{y} \frac{\xi}{p} \frac{1}{p}$

$(-\infty, \xi] \cup [1, +\infty)$

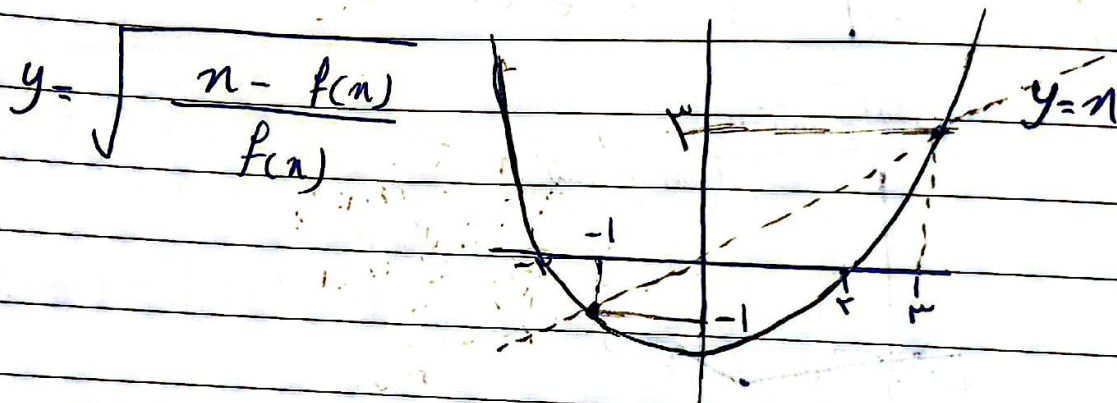


Sub:

$$y = \frac{n^2 - n}{n^2 + n}$$

$$\begin{array}{c} 0 \quad 1 \\ n(n-1) \end{array} \quad \begin{array}{c} n \quad -1 \quad 0^* \quad 1 \\ p(n) + \cancel{1} - \cancel{1} - p + \end{array}$$

		-1	0*	1
$n^2 - n$	+	+	-	+
$n^2 + n$	+	+	+	+
$p(n)$	+	-	-	+



$$\frac{n - f(n)}{f(n)} \geq 0$$

$$n - f(n) = 0$$

$$f(n) = n$$

$$n = \pm 1$$

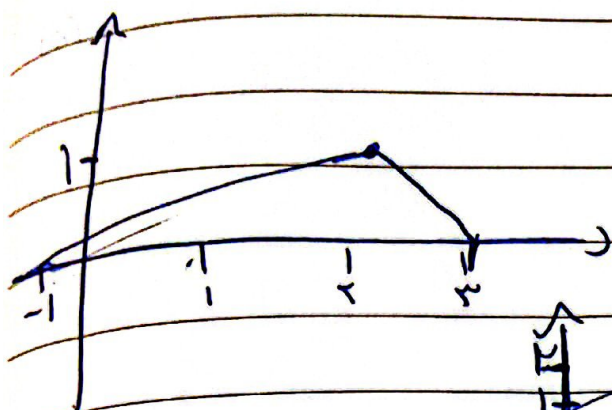
$$f(n) = 0$$

$$n = \pm 1$$

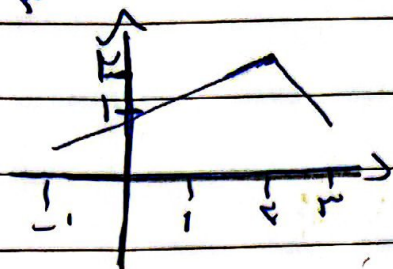
$$\begin{array}{c} n \quad -1 \quad -1 \quad 1 \quad 1 \\ y \quad + \quad - \quad + \quad - \end{array}$$

$$D_f = (-\infty, -1) \cup (-1, 1) \cup (1, +\infty)$$

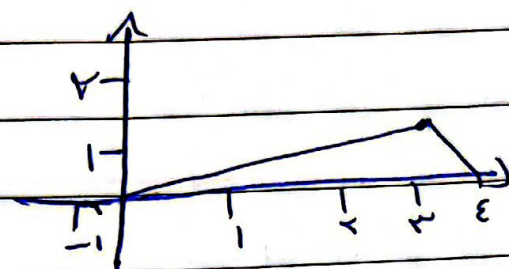
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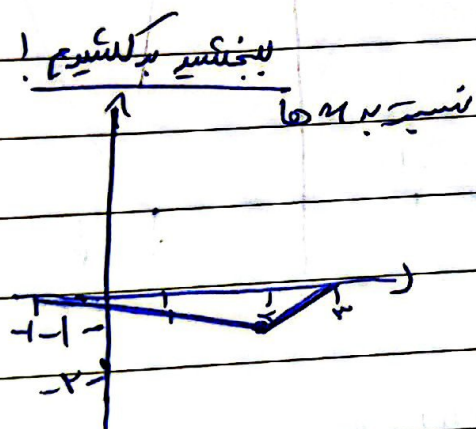
الف) $f(x) + 1$



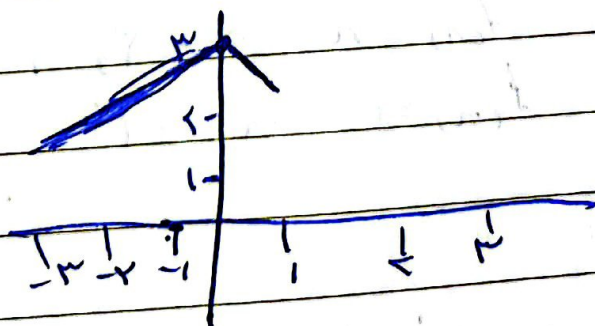
ب) $f(x-1)$



ج) $-f(x)$



د) $f(x+1) + 1$



Sub:

$$\left\{ \begin{array}{l} f(n) = \sqrt{n^3 - 2n} \quad n^3 - 2n \geq 0 \\ g(n) = \sqrt{n} \sqrt{n^2 - 2} \end{array} \right. \quad (1)$$

$n(n^2 - 2) \geq 0 \quad \frac{n}{n} \quad \frac{-\sqrt{2}}{-\sqrt{2}} \quad \frac{0}{0} \quad \frac{\sqrt{2}}{\sqrt{2}}$
 $n^2 - 2 = 0 \quad n = \pm\sqrt{2}$
 $D_f = [-\sqrt{2}, 0] \cup [\sqrt{2}, +\infty)$

$$\begin{array}{l} n \geq 0 \\ n^2 - 2 \geq 0 \\ n^2 \geq 2 \\ n \geq \sqrt{2} \end{array} \quad \wedge \quad D_g = [\sqrt{2}, +\infty)$$

برابر نیستند

$$\left\{ \begin{array}{l} f(n) = [\sqrt{n} - \lfloor \sqrt{n} \rfloor] \quad D_f = n \geq 0 = [0, +\infty) \\ g(n) = \sqrt{n - |n|} \quad D_g = [0, +\infty) \end{array} \right. \quad (4)$$

برابرند

$n - |n| \geq 0$
 if $n \geq 0$ ✓
 if $n < 0$ ✗

$$\text{الف) } f(n) = \sqrt{n|n|} / g(n) = n \quad D_f = R \quad (10)$$

برابر نیستند

$n|n| \geq 0$
 $D_g = [0, +\infty) \neq R$

$$\Rightarrow f(n) = \frac{n}{|n|} / g(n) = \frac{|n|}{n} \quad D_f = R - \{0\} = D_g = R - \{0\}$$

$\frac{|n|}{n} \neq 0 \quad n \neq 0$
 $\frac{n}{|n|} \neq 0 \quad n \neq 0$

برابرند