

۱.  $df$  را بیابید. خارج صفر نشود.

الف)  $y = \frac{n+3}{2n^3 + 2n^2 - 11n + 3}$

$2n^3 + 2n^2 - 11n + 3$

$3 - 11 + 3 + 3 = 0$

$\frac{2n^3 + 2n^2 - 11n + 3}{2n^3 + 2n^2} \quad \frac{n-1}{2n^2 + 2n - 3}$

$2n^2 - 11n + 3$

$2n^2 + 2n$

$-3n + 3$

$(n-1)(2n^2 + 2n - 3)$

$n+3$

$2n^2 + 4n - n - 3$

$= 2n(n+3) + (-1)(n+3)$

$(n-1)(n+3)(2n-1) \quad df = R_1 - \left\{ \frac{1}{2}, -3, 1 \right\}$

ب)  $y = \frac{n+3}{2n^3 + 9n^2 + 10n + 3}$

$3 + 10 = 3 + 9 \rightarrow$  در  $n+1$  بخش پذیر

$n+3$

$\frac{2n^3 + 9n^2 + 10n + 3}{-2n^3 - 2n^2} \quad \frac{n+1}{2n^2 + 7n + 3}$

$-2n^3 - 2n^2$

$7n^2 + 10n + 3$

$-7n^2 - 7n$

$3n + 3$

$(n+1)(2n^2 + 7n + 3) = (n+1)(n+3)(2n+1)$

$(2n^2 + 9n + n + 3) \quad df = R_1 - \left\{ -1, -3, -\frac{1}{2} \right\}$

$2n(n+3) + 1(n+3)$

الف)  $y = \frac{n+3}{n^3 - 2n^2 + 2n - 1}$

$n+3$

$n^3 - 2n^2 + 2n - 1 \quad (n-1)(n^2 - n + 1)$

$\Delta < 0$

جواب ندارد

$[1 + 3 - 2 - 1 = 0]$  در  $n-1$  بخش پذیر

$n=1$

$D = R_1 - \left\{ 1 \right\}$

ب)  $y = \frac{n+3}{n^3 - 2n^2 + 2n - 1}$

I.  $\frac{1}{n+3}$  باشد II. خارج صفر نشود

I)

$\frac{-3}{1 - \frac{1}{n+3}}$

$df = (-\infty, -3] \cup (1, +\infty)$

$(n-1)(n^2 - n + 1)$

$n=1$

$\Delta < 0$   
جواب ندارد

$$y = \frac{x^2 - 5|x-1| - 2x + 5}{x^2 - 5x + 5 - 2x + 5}$$

df = ? ۳

$$x^2 - 5x + 5 - 2x + 5 = x^2 - 7x + 10$$

$x \geq 1$  I

$$(x+2)(x-5) \quad x = [2, 5]$$

هر دو قابل قبول

$$x^2 - 5x + 5 - 2x + 5 = x^2 + 3x$$

$x \leq 1$  II

$$x(x+3) \quad x = [-3, 0]$$

هر دو قابل قبول

$$Df = R - \{0, 2, 5, -3\}$$

$$y = \sqrt{[-x] - 2} \quad [-x] - 2 \geq 0 \quad [-x] \geq 2$$

$$-x \geq 2 \quad x \leq -2$$

$$5x^2 + 4$$

مخرج نباید صفر شود.

$$[x]^2 - 2[x] - 3 \quad ([x] - 3)([x] + 1)$$

$$[x] = 3 \quad 3 \leq x < 4$$

$$[x] = -1 \quad -1 \leq x < 0$$

$$Df = R - ([-1, 0) \cup [3, 4))$$

$$y = \sqrt{[x - \frac{1}{3}] + [x + \frac{2}{3}]} \quad -1 + 1$$

$$[x + \frac{2}{3}] + [x + \frac{2}{3}] - 1 \geq 0 \quad 2[x + \frac{2}{3}] \geq 1$$

$$[x + \frac{2}{3}] \geq \frac{1}{2}$$

$$x + \frac{2}{3} \geq 1$$

$$x \geq \frac{1}{3}$$

$$y = \sqrt{[x - \frac{1}{3}] + [\frac{1}{3} - x]}$$

مقادیر از آن اعداد صحیح ۰

$$[0] + [-0] \geq 0$$

$$Z \rightarrow 0$$

$$Df = Z \quad x - \frac{1}{3} \in Z$$

$$R - Z \rightarrow -1$$

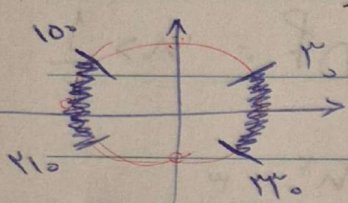
$$D = \left\{ \frac{1}{3} + k \mid k \in Z \right\}$$

9- D ایڈیٹ 1 دبیر I مخرج صفر شد II tan و cot تعریف  $0 < n+1$   
 $y = \frac{0 < n+1}{\tan n+1}$  شئون

$$\tan n \neq -1 \quad D = R_1 - \left\{ \frac{1-\pi}{2}, \frac{1-\pi}{2} \right\} \quad 1 < \pi < 2$$

ب)  $y = \sqrt{1-4\sin^2}$

$$1-4\sin^2 \geq 0 \quad 4\sin^2 \leq 1 \quad \sin^2 \leq \frac{1}{4} \quad -\frac{1}{2} \leq \sin \leq \frac{1}{2}$$



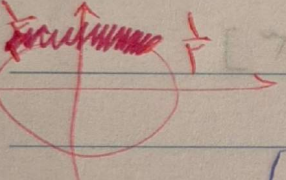
$$D = \left[ \frac{1-\pi}{4}, \frac{1-\pi}{4} \right]$$

دانه است

الف)  $y = \sqrt{2\sin n - 1}$

$\delta = 0$  -v

$$2\sin n - 1 \geq 0 \quad 2\sin n \geq 1 \quad \sin n \geq \frac{1}{2}$$



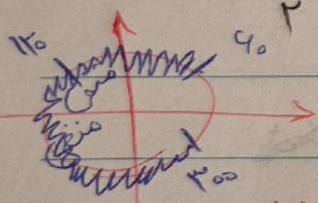
$$D = \left[ \frac{1-\pi}{4}, \frac{1-\pi}{4} \right]$$

ب)  $y = \sqrt{1-2\sin}$

$$1-2\sin \geq 0 \quad 2\sin \leq 1$$

$$\sin \leq \frac{1}{2}$$

$$D = \left[ \frac{1-\pi}{4}, \frac{1-\pi}{4} \right]$$



الف)  $y = \arcsin(n^2 + 2n + 1)$

$$-1 \leq n^2 + 2n + 1 \leq 1 \quad I \quad 0 \leq n^2 + 2n + 1$$

$$n^2 + 2n \leq 0 \quad n(n+2) \leq 0$$

$$D = [-2, 0] \cup [0, 2]$$

C-8

ب)  $y = \sqrt{5-2n}$

$$I \quad 5-2n \geq 0 \quad 2n \leq 5 \quad n \leq \frac{5}{2}$$

$$0 \leq 5-2n \leq 1$$

$$-1 \leq \sqrt{5-2n} \leq 1$$

$$-1 \leq -2n \leq -4 \quad D = \frac{5}{2} \leq n \leq \frac{5}{2}$$

I  $n > 0$

الف  $y = \log_r (1 - \log_r n)$

$1 - \log_r n > 0$

$\log_r n < 1$

II  $n < r$   $D = 0 < n < r$

ب  $y = \log_r (1 - \log_r \frac{n}{r})$

I  $n > 0$

II  $1 - \log_r \frac{n}{r} > 0$

$\log_r \frac{n}{r} < 1$

$n > \frac{1}{r}$

$D = n > \frac{1}{r}$

الف  $y = \sqrt{r^{fn-nr} - 1}$

$r^{fn-nr} - 1 \geq 0$   $r^{fn-nr} \geq r$

$fn - nr \geq +r$

$fn - nr \geq r$

$nr - f_{n0} + r \leq 0$

$D = [1, r]$

$(n-1)(n-r)$

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

ب  $y = \left( \frac{rn+a}{rn+\Sigma} \right) !$

$n = \frac{-dk+b}{ck-a}$

$\frac{rn+a}{rn+r} = k$

$n = \frac{-rk+a}{rk-r}$

~~$n = f_{n0} +$~~

$Df = \left\{ n = \frac{-rk+a}{rk-r} \mid k \in \mathbb{N} \right\}$