

1) $\sin^2(x+y) = 1$ $[-1, 1]$

$-1 \leq \sin x \leq 1 \rightarrow 0 \leq \sin^2 x \leq 1$

2) $\cos^2 x = 0$ $[-1, 1]$

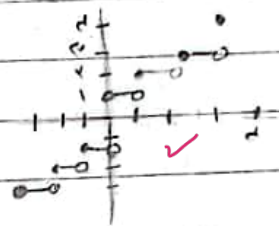
3) $\frac{1}{|x|} + [x] = [-1, 1]$

$(-1, -)$ $-1 - x = -x$

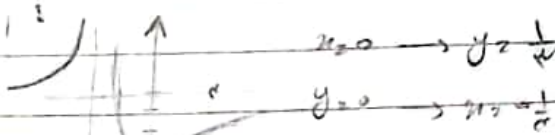
$(-1, -1)$ $-1 - x = -x$

$(-1, 0)$ $-1 - x = -x$

$(0, 1)$ $-1 - x = -x$

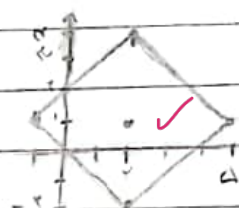


4) $\left| \frac{x+1}{x+2} \right| = d$



5) $|x-2| + |y-1| = 4$
(بہار گیت)

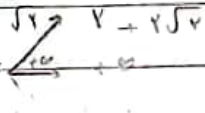
- ① $-x+y$ $x < 2, y > 1$
- ② $x-y$ $x < 2, y < 1$
- ③ $-x-y$ $x > 2, y < 1$
- ④ $x+y$ $x > 2, y > 1$



سفر! گیت

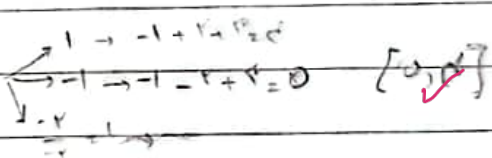
6) $y = x + \frac{1}{x} + \sqrt{x + \frac{1}{x}}$

$x + \frac{1}{x} \in (x, +\infty) \cup (-\infty, -1]$



$[x - \sqrt{x}, +\infty)$

7) $y = (1 - \sin x)(1 + \sin x) = 1 - \sin^2 x = \cos^2 x$



8) $f(x) = \frac{1}{x} - 1$ $D_f = \{1, 2, 3, \dots, 9\}$

$x_1 \rightarrow \frac{1}{x_1} - 1 = \frac{x_1 - 1}{x_1}$
 $x \rightarrow \frac{x_1}{x_1}$
 $x \rightarrow 1$

$x \rightarrow \frac{x_1}{x_1}$
 $x \rightarrow 1$

$x \rightarrow 1$

9) $\sqrt{ax^2 + bx + c}$ $D_f: [x, +\infty)$

$f(x) = 1$

$g(x) = \sqrt{bx^2 + cx + d}$

$[a > 0]$ $x \rightarrow x$ $bx + c = 0$
 $c = -bx$

$\sqrt{bx^2 + c}$ $\rightarrow \sqrt{b(x^2 - x)}$

$\sqrt{b} = 1$

$[c = -1]$

$g(x) = \sqrt{x^2 - x}$ $\rightarrow R_2[x, +\infty)$

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$$\int (n) \frac{n^r - 1}{n - 1} \cdot dn$$

$$D_f = R - \{a, b\}$$

$$R_f = [(1, +\infty) - \{1\}]$$

(2)

(A)

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

$$y_3 = -1 \checkmark = c$$

$$n^r - 1 = 1 \Rightarrow \begin{cases} n = -1 \leftarrow a \\ n = 1 \leftarrow b \end{cases}$$

$$\int (-1) = (+1) \checkmark$$

$$\int_1^x (n^r - 1) \cdot dn = \frac{n^{r+1}}{r+1} - n$$

في

$$D_f = [a, b]$$

$$R_f = ?$$

در این صورت (4)

$$(n-1)^r \rightarrow n^r - 1 = \frac{n^{r+1}}{r+1} - 1$$

$$a = -1 \quad b = 1$$

$$y = n - 1 \Rightarrow \frac{1}{2} \cdot \frac{1}{2} = \frac{1}{4}$$

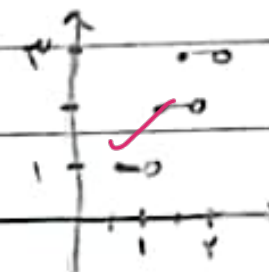
(2)

$$R_f = [-1, 10]$$

$$y = [n] + [n + \frac{1}{2}] \quad (\frac{1}{2}, 2)$$

$$(\frac{1}{2}, 1) \rightarrow 1 \quad (1, \frac{3}{2}) \rightarrow 2 \quad (\frac{3}{2}, 2) \rightarrow 3$$

در این صورت



(2) در این صورت (10)

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