

19, Vu

(الف) $\underbrace{r\left(\begin{bmatrix} 1 \\ 1 \end{bmatrix} - \begin{bmatrix} 1 \\ 1 \end{bmatrix}\right)}_{\text{مقدار صفر}} \rightarrow 0 \leq r \cdot 1 \left[\frac{1}{r} \right] < 1 \rightarrow 0 \leq 1 < 1$ $R = \text{مقدار صفر}$ $[0, 1]$ $\checkmark$

R = 

$[0, \pi]$

$$[0, \frac{r}{r}] \cup (1, \infty)$$

ب) $\log y = x + \sin m$

$$\rightarrow \mu \leq \mu + \sin \alpha \leq \omega$$

→ $1.^\mu \quad 1.^\mu \quad 2.^\mu \quad 1.^\mu \quad R = [1.^\mu, 1.^\mu]$

$[1.2, 1.5]$

(الف) $\frac{\sqrt{n+\frac{1}{n}}=t}{\lim_{n \rightarrow \infty} n+\frac{1}{n} \gg 1} \quad t^2 + t = f(n) \rightarrow (t+1)^2 - 1 \rightarrow \underbrace{\left(\sqrt{n+\frac{1}{n}} + 1\right)^2 - 1}_{\min: \sqrt{n}+1}$

Q

$\Rightarrow -\sin^2 n + r \sin n + r = y$

$\begin{matrix} \xrightarrow{\sin n = -1} \\ \xrightarrow{\sin n = 1} \\ \xrightarrow{\sin n = \frac{1}{r}} \end{matrix}$

$\begin{matrix} 0 = y \\ r = y \\ 1 = y \end{matrix}$

$R = [0, r]$

$$R = \begin{bmatrix} 0 & 1 \end{bmatrix}$$

$$D_f = \{1, 2, 3, \dots, 9\}$$

$$\underbrace{a \times 1}_a + (-\frac{1}{r}) + (r + \frac{1}{r}) + (r + \frac{1}{r}) \dots + (a + \frac{1}{r}) = a + \sum a \times \frac{1}{r} = \boxed{\frac{a}{\sqrt{a}}} \quad \text{✓}$$

$$a n^r + b n + c \geq 0$$

$$D_F = [r, \infty)$$

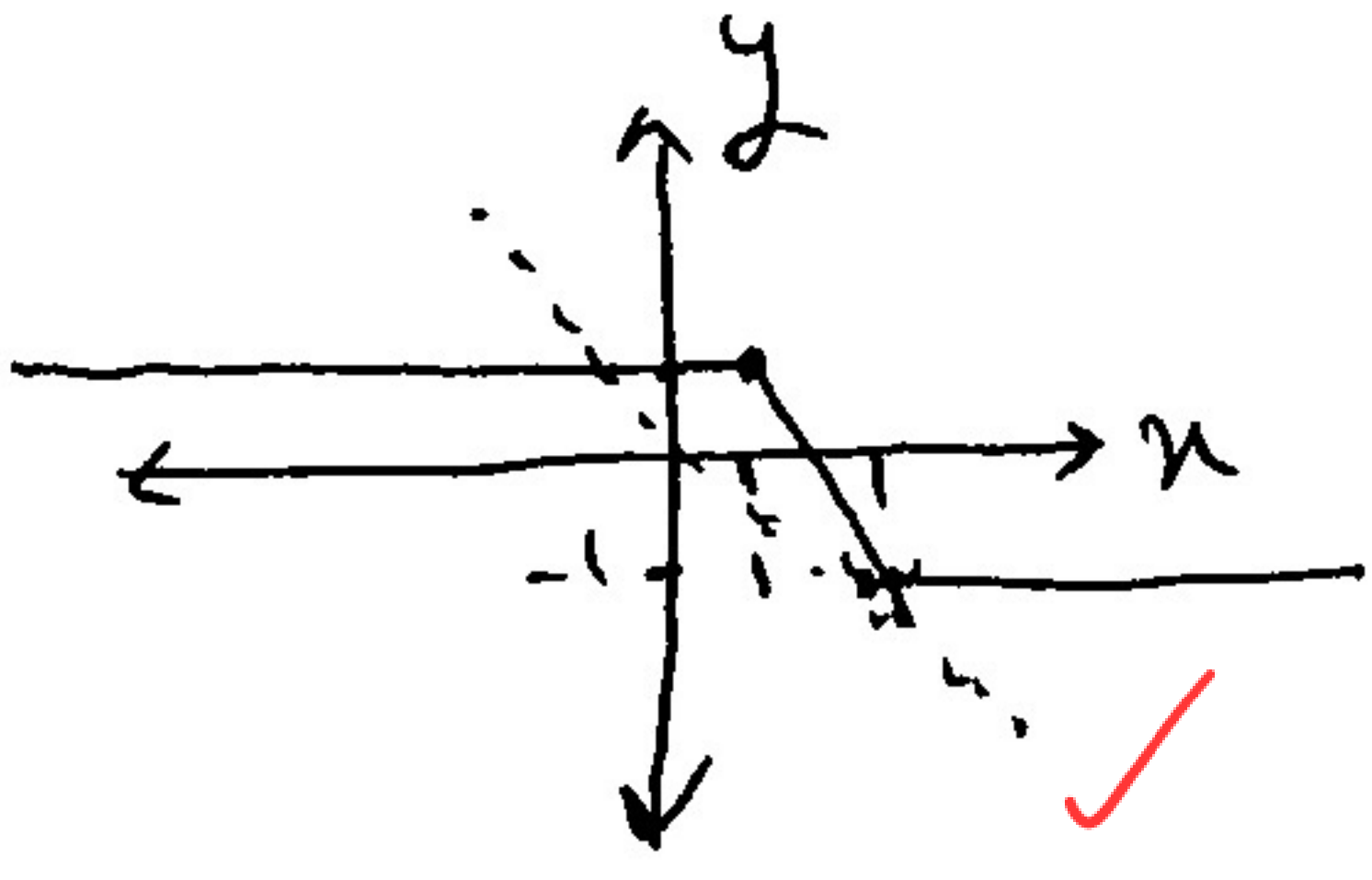
$$a = 0 \quad x \geq \frac{-c}{b}$$

$$\frac{-c}{b} \pm r \rightarrow r_b \pm c$$

$$\begin{cases} rb + c = 1 & \rightarrow b = 1 \\ c = -rb & \rightarrow c = -1 \end{cases}$$

$$g(n) = \sqrt{n^T + \Sigma} \quad (4)$$

$$R_{f_2}([r, \infty))$$

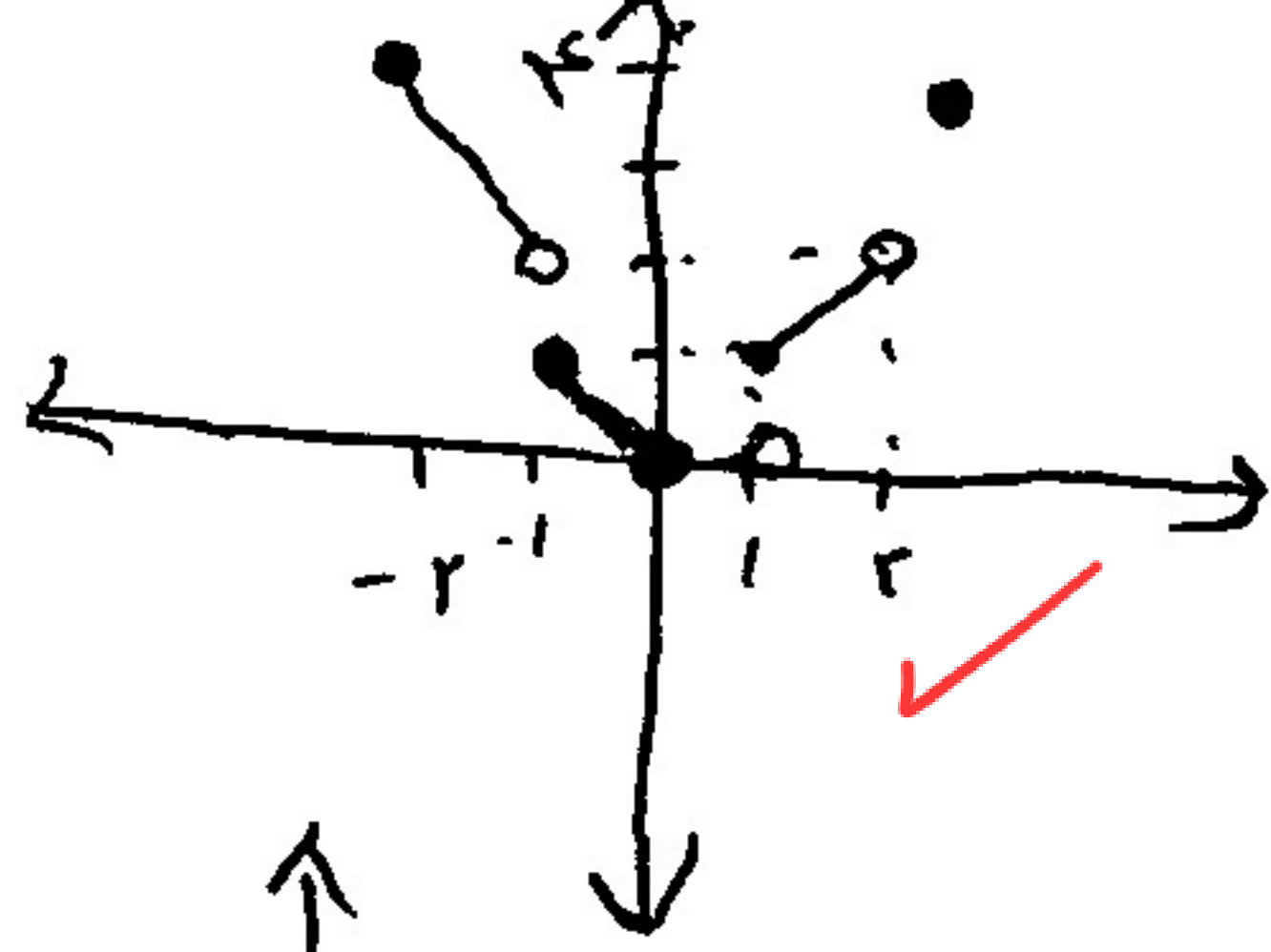


۶- سطح آبی، U : $(2, -1) \in K_X$

$$\gamma_{K_2-1} \rightarrow \boxed{K_2 - \frac{1}{T}}$$

Q

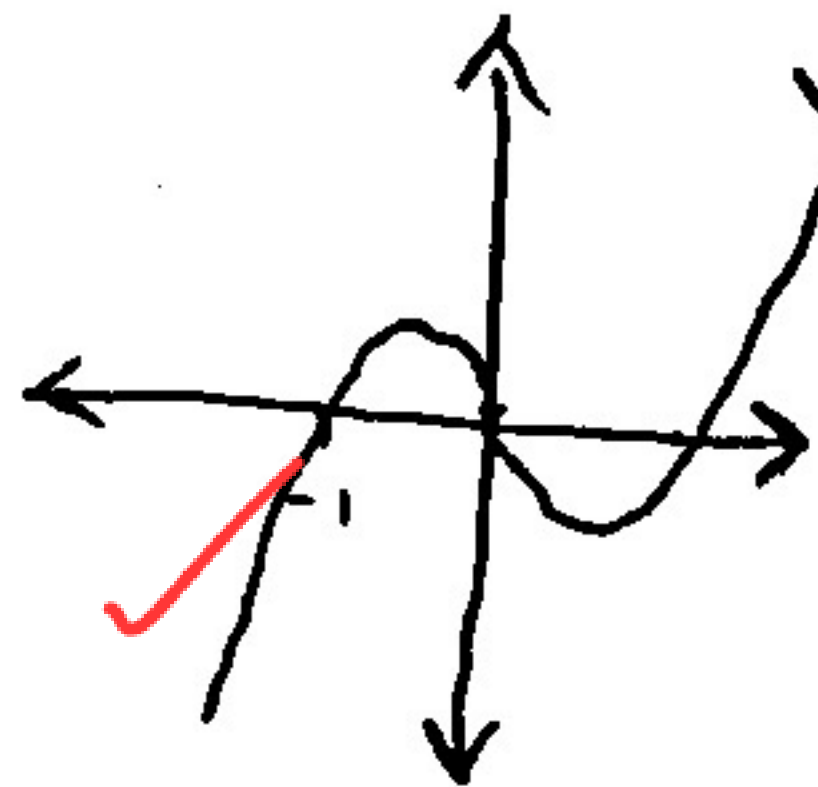
الف) $f(x) = \begin{cases} x^2 & x \geq 2 \\ x & 1 \leq x < 2 \\ 0 & 0 < x < 1 \\ -x & -1 < x < 0 \\ -x^2 - 2 & x < -1 \end{cases}$ ✓



$R_f = [0, 2] - \{1\}$ ✓

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ب) $g(x) = \begin{cases} x^2 - x & x \geq 0 \\ -x^2 - x & x < 0 \end{cases}$ ✓



$R_g = \mathbb{R}$

$R_g = [-2, 2]$

باتوجه به بازه

تعیین شده در سوال

$\frac{x^2 + 2x + 1}{x^2 + x} = \frac{x+1}{x}$

$\frac{x}{x} \neq -1, 0 \rightarrow x \neq -2, 0$

$a+b = -2$ ✓

2

$\sqrt{x} = t$

$\frac{(t^2 - 2t + 1)(t-1)(t-1)}{(t-1)(t-1)} = \frac{(t-1)^2}{(t-1)(t-1)}$

$\frac{\sqrt{x}-1}{\sqrt{x}-1}$ ✓

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$\begin{cases} \sqrt{x} = 0 \rightarrow x = 0 \\ \sqrt{x} \rightarrow \infty \end{cases}$

$R = (-\infty, 1) \cup [2, \infty)$ ✓

2

1 $\begin{array}{c|c|c|c} 1 & 2 & -1 & -2 \\ \hline 1 & 2 & 2 & 0 \end{array}$

مقیاس هوریز

$y = \frac{x^2 + 2x + 1}{x+1} = x+1, x \neq -1, +1$

$y \neq 2, 1 \Rightarrow y = x+1 = 2$ ✓

2

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