

(1, 0) $\Rightarrow$ $m > 0$ و n مخالف برای 2
 (0, 1) $\Rightarrow$ $m < 0$ و n مخالف برای 2

اسیر باستان

06 SATURDAY
 December 2025
 جمادی الثانی ۱۴۴۷
 السبت ۱۵
 هفته ۳۸

۱۵
 شنبه
 آذر ۱۴۰۴

(الف) $y = \left(u - \sqrt{\frac{u}{2}} \right) \Rightarrow u = z \Rightarrow r = 0$
 $u = r - z \Rightarrow r = (0, \varepsilon)$
 $r \in [0, 1) \cup (1, \varepsilon)$

(ب) $\sin u + \log y - \varepsilon = 0 \Rightarrow \log y = \sin u - \varepsilon$
 $\min u = \frac{1}{2} \Rightarrow y = -\frac{1}{2}$
 $\max u = 1 \Rightarrow y = -\frac{1}{2}$

$1 - \delta < y < 1 - \mu \Rightarrow \frac{1}{1-\mu} < y < \frac{1}{1-\delta}$

$f(u) = \sqrt{\frac{u^2 - \varepsilon}{u^2 - 9}}$ $Rf = [a, b] \cup [c, +\infty)$

$y^2 = \frac{u^2 - \varepsilon}{u^2 - 9} \Rightarrow y^2 u^2 - 9y^2 = u^2 - \varepsilon \Rightarrow u^2(y^2 - 1) = 9y^2 - \varepsilon$

$u^2 = \frac{9y^2 - \varepsilon}{y^2 - 1} \Rightarrow u = \sqrt{\frac{9y^2 - \varepsilon}{y^2 - 1}}$

$\Rightarrow [0, \frac{2}{3}] \cup [1, +\infty)$

$(a \geq 0) \quad (b = \frac{1}{a}) \quad (c = 1) \Rightarrow a + b + c = \frac{a}{a}$

(الف) $f(u) = u + \frac{1}{u} + 2\sqrt{u + \frac{1}{u}}$

$u > 0 \Rightarrow u + \frac{1}{u} + 2\sqrt{u + \frac{1}{u}} \geq 4\sqrt{2}$
 برآورد مساوی
 برآورد مساوی

$Rf = [1, +\infty)$

$u < 0 \Rightarrow u + \frac{1}{u} + 2\sqrt{u + \frac{1}{u}} \rightarrow -\infty$
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$$y = (r \sin \alpha)(1 + \sin \alpha) = \sin^2 \alpha + r \sin \alpha$$

$$\sin \alpha = -1 \rightarrow y = -1 + r - r = 0$$

$$\sin \alpha = 1 \rightarrow y = -1 + r + r = 2r - 1$$

$$0 \leq y \leq 2$$

$$f(x) = -\frac{1}{x} + 10 \quad Df = \{1, 2, 3, 4, 5, 6, 7, 8, 9\}$$

$$x=1 \Rightarrow y = \frac{9}{1}$$

$$x=4 \Rightarrow y = \frac{9}{4}$$

$$x=2 \Rightarrow y = \frac{9}{2}$$

$$x=3 \Rightarrow y = \frac{9}{3}$$

$$x=6 \Rightarrow y = \frac{9}{6}$$

$$x=9 \Rightarrow y = \frac{9}{9}$$

$$x=3 \Rightarrow y = \frac{9}{3}$$

$$x=9 \Rightarrow y = \frac{9}{9}$$

$$x=9 \Rightarrow y = \frac{9}{9}$$

$$f(x) = \sqrt{ax^2 + bx + c}$$

$$[1, +\infty) \Rightarrow a \geq 0 \Rightarrow f(x) = \sqrt{bx + c} \Rightarrow b \geq 0 \Rightarrow c \geq -1$$

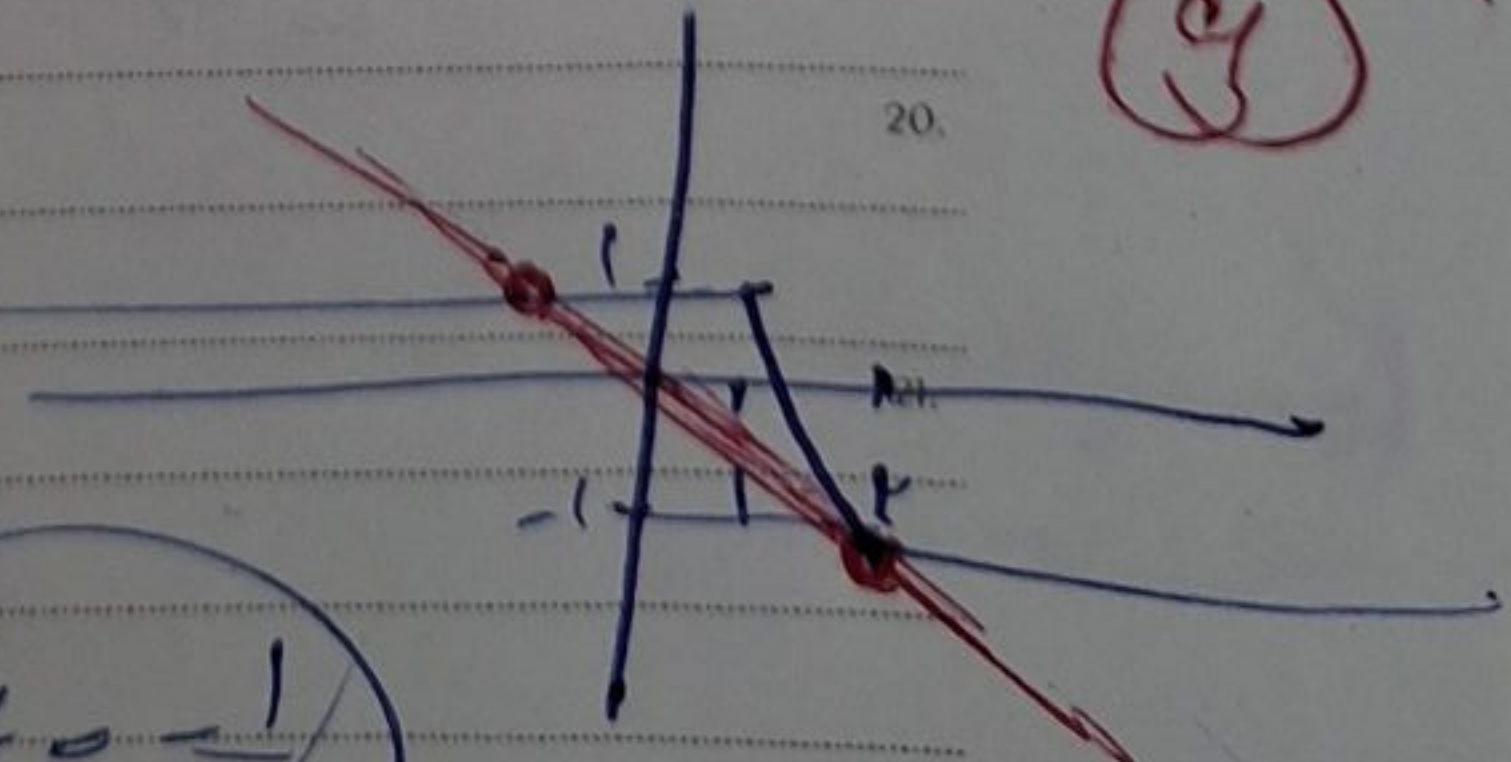
$$f(x) \geq 1 \Rightarrow \sqrt{bx + c} \geq 1 \Rightarrow b \geq 1 \Rightarrow c \geq -1$$

$$g(x) = \sqrt{bx^2 + ax - c} \Rightarrow g(x) = \sqrt{x^2 + 2} \Rightarrow R(g) = [1, +\infty)$$

$$|x-1| - |x-1| = kx \Rightarrow \text{جواب}$$

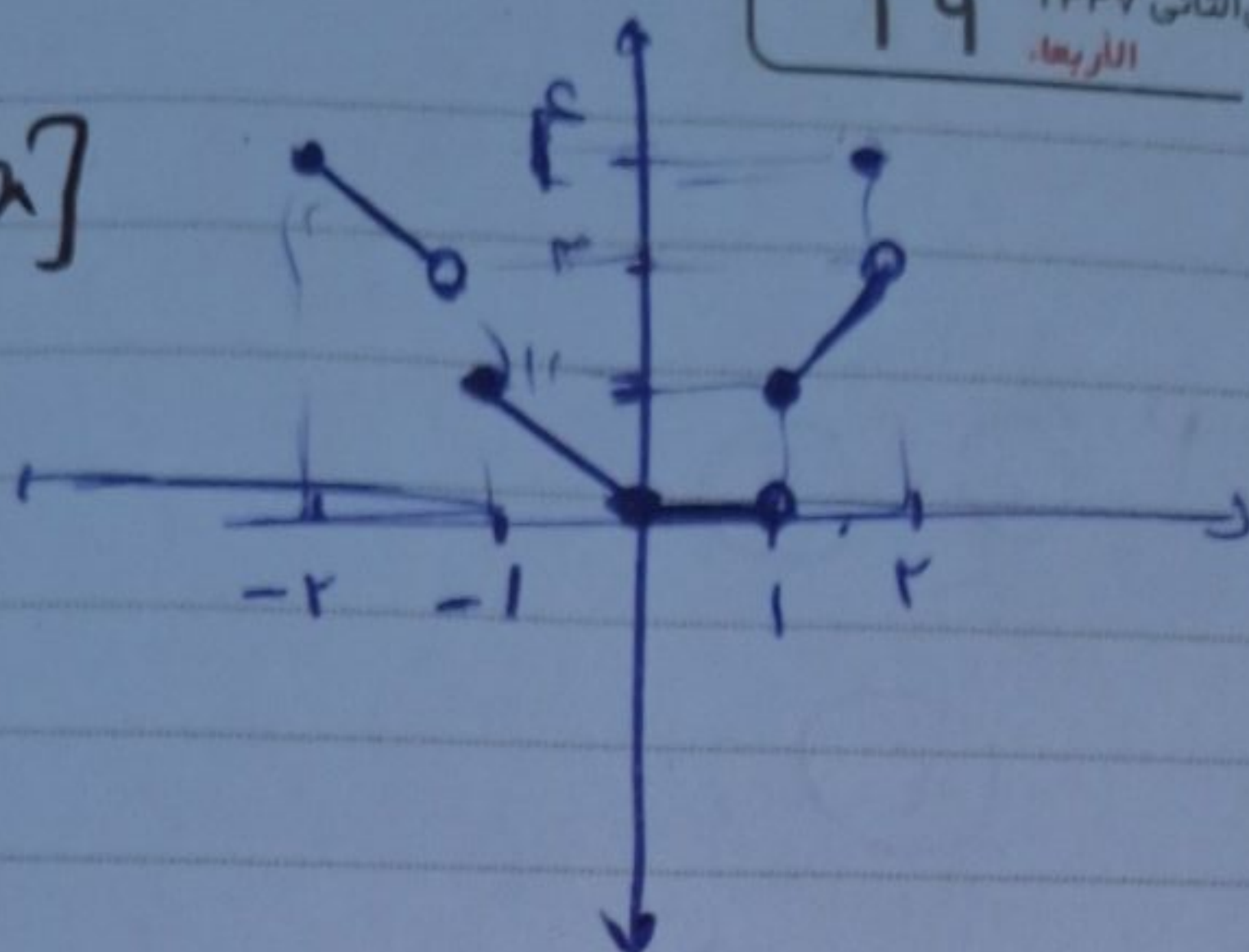
$$x=1 \Rightarrow y = -1$$

$$x=1 \Rightarrow y = -1 \Rightarrow k = -1$$

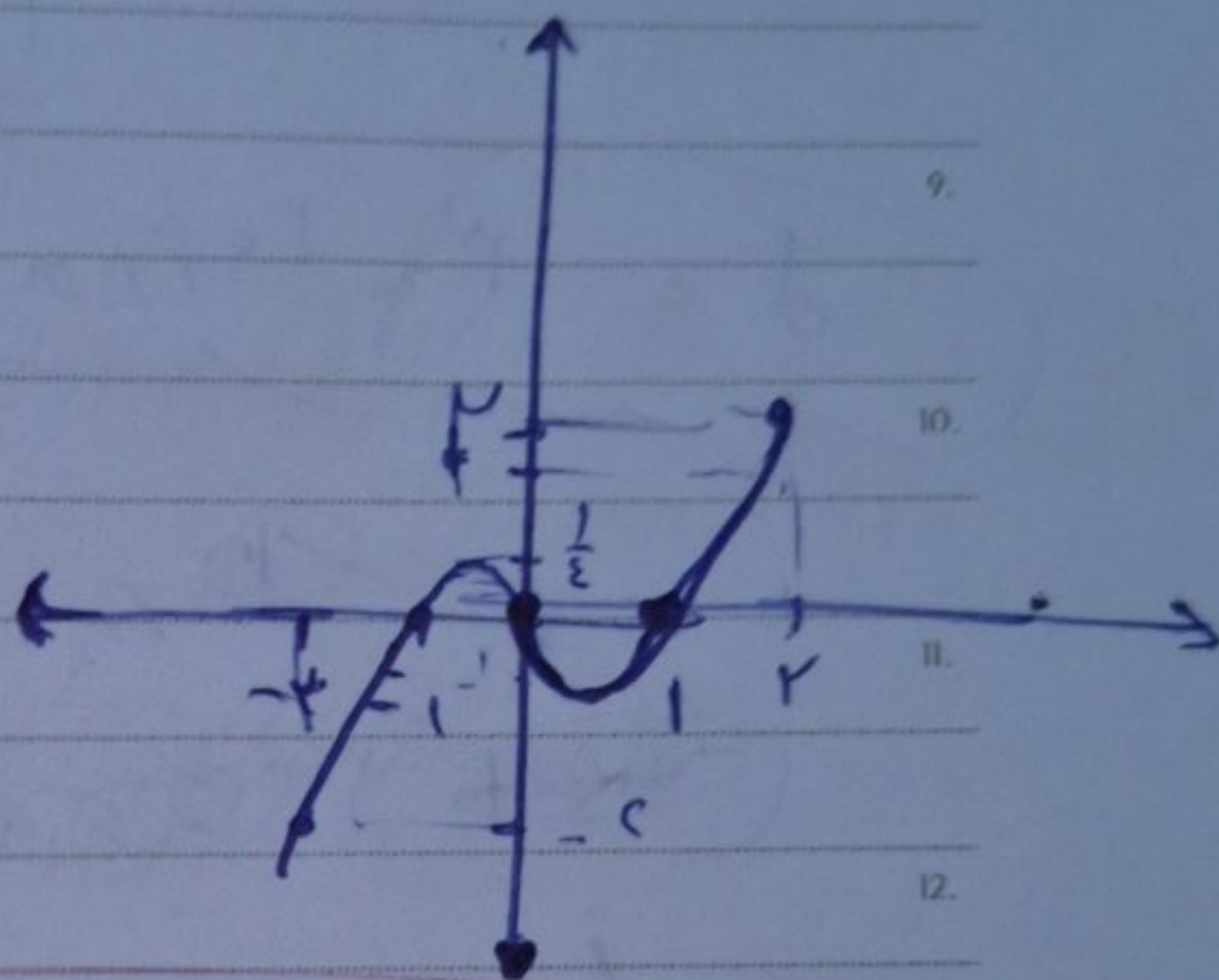


7

الف) $y = u[x]$



ب) $y = u|u| = u$



$$y = \frac{1}{n} + \frac{1}{n+1} + \frac{1}{n^2 + n}$$

$$\frac{n+1+n+1}{n^2+n}$$

8

$y \in \mathbb{R} - [a, b]$

$a+b=0$

عدد صحیحی دهد

$a=-1$ هم در دامنه نیست پس برد (-2) می ده

$y \in \mathbb{R} - [2, 0] \Rightarrow y < -2$

9

$$f(x) = \frac{x - \sqrt{x+3}}{x - 2\sqrt{x+1}}$$

$$= \frac{(\sqrt{x+3})(\sqrt{x+1})}{(\sqrt{x+1})(\sqrt{x+1})}$$

$$\Rightarrow y\sqrt{x+1} = \sqrt{x+3} \Rightarrow$$

$$\sqrt{x+1}(y-1) = y-3 \Rightarrow \sqrt{x+1} = \frac{y-3}{y-1}$$

$$\Rightarrow \frac{y-3}{y-1} = \frac{1}{2} \Rightarrow$$

$$\mathbb{R} \setminus \frac{1}{2} = (-\infty, 1) \cup [3, +\infty)$$

تجوع ضرایب صورت $\Rightarrow$

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

$$y = \frac{(n-1)(n+1)(n+2)}{(n-1)(n+1)} = n+2$$

دقتاً ۱ و -۱
دامه تعریف نمی شود و به هم
نداریم

$$\left. \begin{array}{l} n=1 \Rightarrow y=3 \\ n=-1 \Rightarrow y=1 \end{array} \right\}$$

$$n=1 \Rightarrow y=3$$

