

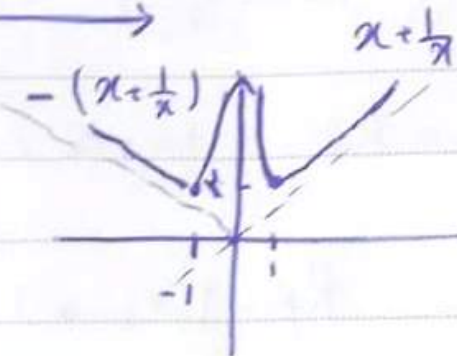
۱۲۸ اساتذات و اساتذات

$$R_f = \mathbb{R} - \left(-\frac{1}{2}, 1\right]$$

۱- الف) (۲)



۱۸



$$R_f = [2, +\infty)$$

ب) (۲)

$$\frac{x^2 + 3x - (x+2)}{x+2} = x - \frac{x+2}{x+2}$$

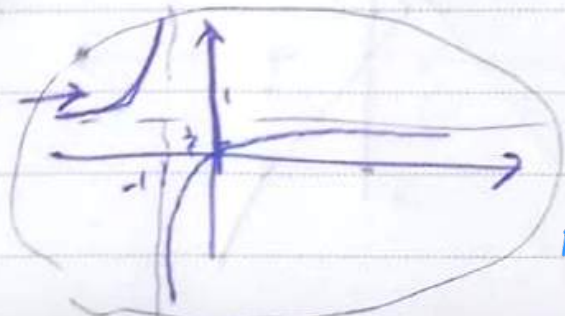
ج) (۲)

$$\Rightarrow x+2 \leq t \rightarrow t-2 - \frac{t-1}{t} \leq t-2 - 1 + \frac{1}{t} = \frac{t+1}{t} = 1 + \frac{1}{t}$$

$$(-\infty, -2] \cup [2, +\infty)$$

$$R_f = (-\infty, -2] \cup [2, +\infty)$$

$$\frac{x^2 - x \leq t}{t+1} \Rightarrow \frac{t+1}{t+1} = 1$$



د) (۱, ۵) دافنه؟

منحنی همواره مثبت است $D_f = \mathbb{R}$

$$\text{if } t \leq -\frac{1}{f} \Rightarrow f \geq 0 \Rightarrow R_f = [0, 1]$$

$$-x^2 + (x-1) \rightarrow \mathbb{R} = (-\infty, 2] \Rightarrow R_f = [0, \sqrt{2}]$$

ه) الف) (۲)

$$2x^2 - 1x \rightarrow [-1, +\infty) \Rightarrow R_f = [-2, +\infty)$$

ب) (۲)

$\sin \begin{cases} 1 \rightarrow 1 \\ -1 \rightarrow 2 \\ \frac{1}{2} \rightarrow \frac{3}{2} \end{cases}$
نه بازه
 $\Rightarrow R_f = [\cancel{1}, \infty) \quad [\frac{3}{2}, 3]$

۱۰- الف)

(۱, ۵)

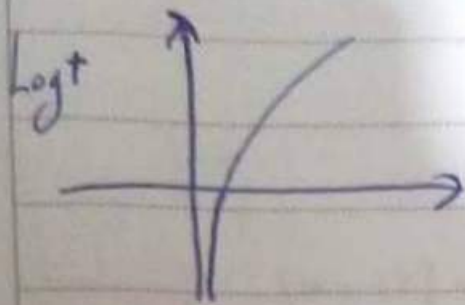
$\sin^2 \begin{cases} 1 \rightarrow 3 \\ 0 \rightarrow 1 \\ -\frac{1}{2} \rightarrow x \end{cases}$

$R_f = [\cancel{1}, \infty) \quad [1, 3]$

(ب)

$$x^2 - x + 1 \rightarrow R \leq IR \Rightarrow R_f = IR \checkmark$$

(الف - 1)



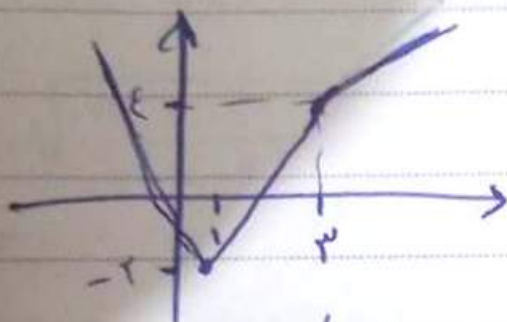
$$\text{Log}_{d_1} \left(x + \frac{1}{x} \right) \rightarrow (-\infty, -2] \cup [2, +\infty) \checkmark$$

G O E

(2)

(-)

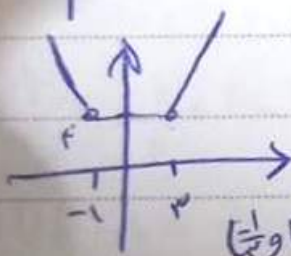
$$\Rightarrow R_f = [1, +\infty) \checkmark$$



$$R_f = [-2, +\infty) \checkmark$$

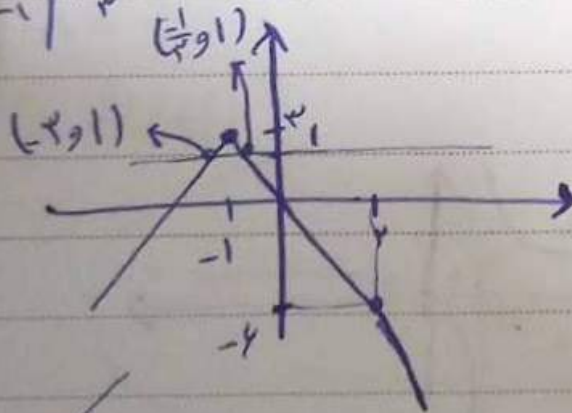
(الف - 4)

(2)



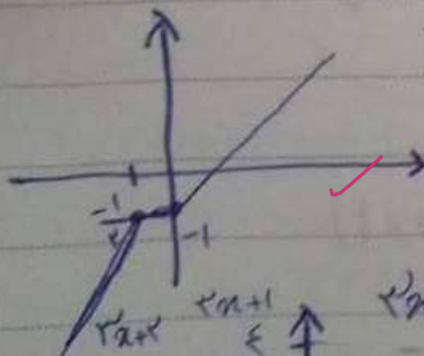
$$R_f = [1, +\infty) \checkmark$$

(-)

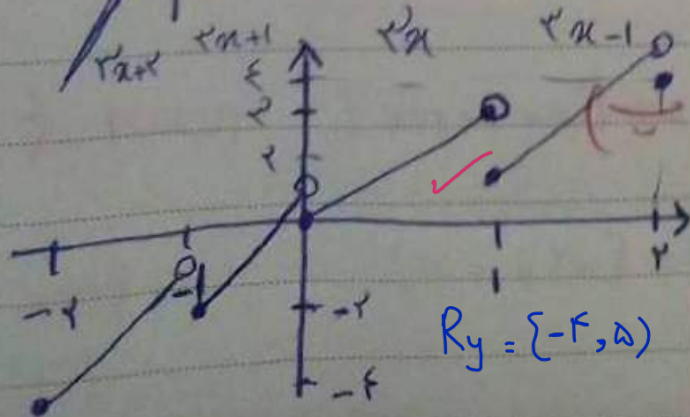


$$IR - (-2, -\frac{1}{2}) \checkmark$$

(2)



$$\checkmark IR (2) - 1$$



$$R_y = [-1, \infty)$$

$$[x] + [-x] + 2$$

(الف - 9) برده

$$R_y = \{2, 3\}$$

