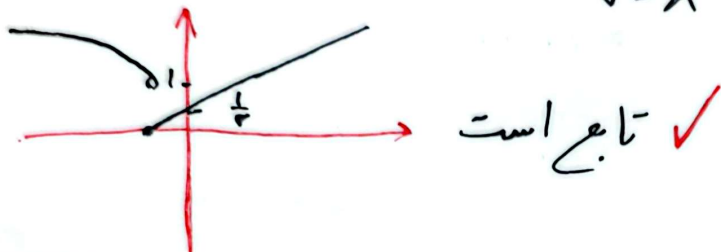


(فصل ۴م و ۵م)
(سوال ۱)

تکلیف شما ۲۰

دوازدهم پسر A

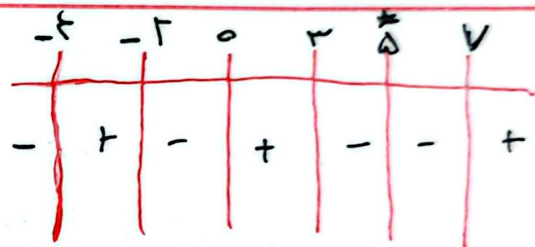
$$h = \begin{cases} y-1 & y \geq 0 \\ -y^2 & y < 0 \end{cases} \rightarrow \begin{cases} \frac{y+1}{3} & y \geq 0 \\ \sqrt{-h} & y < 0 \end{cases}$$



✓ تابع است

$$g(a) = \sqrt{\frac{a f(a+2)}{f(a)}} \rightarrow -2, 0, 7$$

$$f(a) \rightarrow -4, 3, 5$$



(سوال ۲)

$$D_g = (-4, -2] \cup [0, 3) \cup [7, +\infty)$$

الف) $D_F = \mathbb{R} - \{0, 2, -2\}$

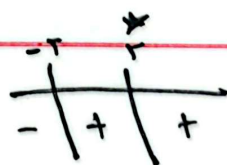
ب) $D = (-2, 0) \cup (2, +\infty)$

$$\sqrt{\frac{2a^2 - 3a + 2}{a^2 - 4a}} \quad \begin{array}{c|c|c} -2 & 0 & 2 \\ \hline - & + & - \end{array}$$

$$f(a) = \frac{2a^2 - 3a + 2}{a^2 - 4a}$$

(سوال ۳)

الف) $y = \sqrt{\frac{a-2}{2^4 - 2a^2 - 1}} \rightarrow 2$
 $\rightarrow 2, -2$

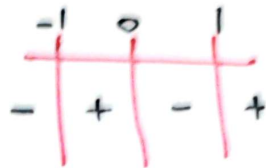


$\rightarrow D_F = (-2, +\infty) - \{2\}$

ب) $y = \frac{2a^2 + 1}{f - 2[-a]} \rightarrow [-2] \neq 2 \rightarrow D_F = \mathbb{R} - (-2, -2]$

(سوال 5)

الف) $f(x) = \sqrt{x(x^2-1)} \rightarrow 0, -1, 1$



$\sqrt{11+x} \rightarrow 0, 10, 20$

$f = 0, 5x \rightarrow$ تعریف نشده $\rightarrow$ خارج صند $\xrightarrow{1, 2} [1, +\infty)$

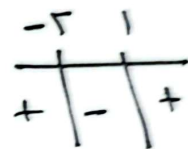
ب) $f(x) = \frac{\sqrt{|x-2|-x^2}}{|x|-1} \rightarrow$ ~~0, 2, 0, 2, 0, 2, 0, 2~~

$\rightarrow x \neq 1, -1$

$|x-2|-x^2 \geq 0 \rightarrow x-2-x^2 \geq 0 \quad x > 2$

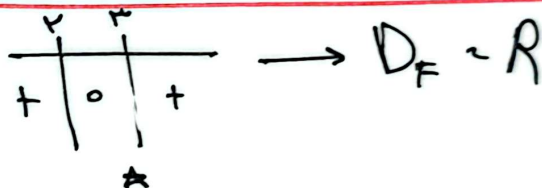
$-x+2-x^2 \leq 0 \quad x < 2$

$\rightarrow -x+2-x^2 \geq 0 \rightarrow x^2+x-2 \leq 0 \rightarrow$



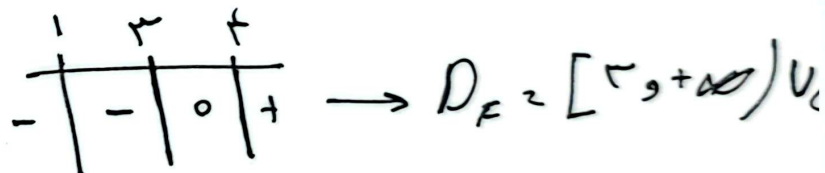
$\xrightarrow{1, 2} D_f = [-2, 1] - \{-1\}$

الف) $y = \sqrt{(x-2)[x-3]}$
 $\downarrow$
 $2 \quad [2, 3)$



(سوال 6)

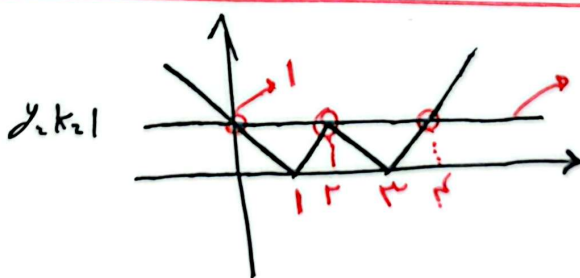
ب) $y = \sqrt{|x-1|[x-3]}$
 $\downarrow$
 $1 \quad [3, 4)$



$y = \frac{1}{||x-2|-1|-k}$

$||x-2|-1| \geq k$

$\leftarrow$ صحیح $2, 3, 2$



3 برخورد

$k_2 = 1$

(7)

(سوال 8)

$$f(x) = \frac{x^3 + 3x + 2}{\frac{x^2 + 3x + 2}{x+1}} \rightarrow x \neq -2, -1, 1 \rightarrow x \in \mathbb{R} \setminus \{-2, -1, 1\}$$

$$x^3 - 6x + 9 = 0 \rightarrow (x-3)^2 = 0 \rightarrow x = 3$$

$$\Delta = 0$$

بند اربعه
مضاعف

(سوال 9)

$$f = \log_{x+1} \log_{\frac{1}{x}}$$

$$x+1 > 0 \rightarrow x > -1 \rightarrow x \neq 0, x \neq 1$$

$$\log_{\frac{1}{x}} > 0 \rightarrow \begin{cases} 1 > x > 0 & \frac{1}{x} < 1 \rightarrow \checkmark \\ x > 1 & \frac{1}{x} > 1 \rightarrow \times \end{cases} \rightarrow D_f = (0, 1)$$

$$D_f = [-5, 3] \rightarrow -5 \leq x \leq 3$$

(سوال 10)

$$f(3x^2 - 1) \rightarrow -5 \leq 3x^2 - 1 \leq 3 \rightarrow 3x^2 - 1 \leq 3 \rightarrow x^2 \leq \frac{4}{3}$$

$$\rightarrow -\frac{2}{\sqrt{3}} \leq x \leq \frac{2}{\sqrt{3}} \rightarrow D_{f(3x^2-1)} = \left[-\frac{2}{\sqrt{3}}, \frac{2}{\sqrt{3}}\right]$$