نام و نام خانوادگی ..... پاسخنامه تشریحی تکلیف شماره ..۲.. کلاس ..یازدهم ریاضی..

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$x^2 - 4x + \textcircled{4} + y^2 + 4y + \boxed{9} = 0 \longrightarrow k = 4+9 = \boxed{11}$

$\underbrace{(2x-2)(x-\frac{5}{2})}_{x^2-6x+8} + (y+2)^2 = 0$

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$x = a \Rightarrow a^2 + 4a = 3a + 2$

$a^2 + a - 2 = 0 \rightarrow (a+2)(a-1) = 0$ ← $a=-2$ غ ق ق ، $\boxed{a=1}$ ق ق

$f(x)\begin{cases} x^2+4x & ; x \geq 1 \\ 2x+3 & ; x \leq 1 \end{cases} \longrightarrow f(1) = 1^2 + 4 = \boxed{5}$

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$f(x) = \begin{cases} 2x^2 - b & ; |x+1| \geq 2 \\ a+2x & ; -3 \leq x \leq -1 \end{cases}$ → $|x+1| \geq 2$

$x+1 \geq 2 \rightarrow x \geq 1$

$x+1 \leq -2 \rightarrow x \leq -3$

$x = -3 \rightarrow a-6 = 18 - b \longrightarrow a+b = \boxed{24}$

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$\left.\begin{matrix} 9x \geq a \\ b \geq 3x \end{matrix}\right\} \cap \quad \frac{b}{3} \geq x \geq \frac{a}{9} \rightarrow \frac{b}{3} = \frac{a}{9} = 2 \begin{matrix} \rightarrow b = 6 \\ \hookrightarrow a = 18 \end{matrix}$

$\frac{b}{a} = \boxed{\frac{1}{3}}$

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الف)

$\frac{x+1}{|x-3|} \geq 0$

	-1	3 ☆
	− 0 +	+ ∄ +

$\frac{9-x}{x^2+2x+6} \geq 0 \rightarrow \Delta < 0$

	9
	+ 0 −

$D_f = [-1, 9] - \{3\}$

ب)

$[x] - 2 \geq 0 \rightarrow [x] \geq 2 \rightarrow x \geq 2$

$2 - [x] \geq 0 \rightarrow 2 \geq [x] \rightarrow x < 3$

$D_f = (-\infty, 3) \cup [3, +\infty)$

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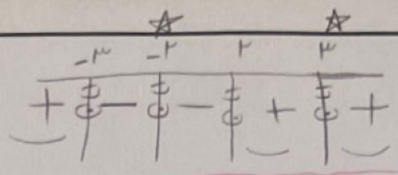
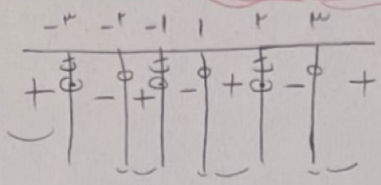
الف) $\frac{(x-3)(x+2)}{(t-4)(t-9)} \geq 0$, $x^2 = t$ → $x = \pm 3$, $x = \pm 2$



$D_f = (-\infty, -3) \cup (2, 3) \cup (3, +\infty)$

ب) $\frac{(x-1)(x-3)(x+2)}{(x+1)(x+3)(x-2)} \geq 0$



$D_f = (-\infty, -3) \cup [-2, -1) \cup [1, 2) \cup [3, +\infty)$

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الف) $[-x] \geq 2 \rightarrow -x \geq 2 \rightarrow x \leq -2 \rightarrow D_f = (-\infty, -2]$

ب) $[x]^2 - 2[x] - 3 \neq 0$

$([x]-3)([x]+1) \neq 0$

$[x] \neq 3 \quad [x] \neq -1$

$D_f = \mathbb{R} - \{[-1, 0) \cup [3, 4)\}$

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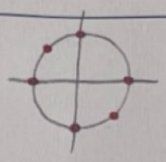
الف) $\sin x \neq 0 \quad \cot x \neq -1$

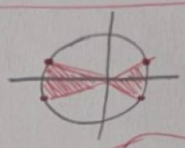
$\cos x \neq 0 \quad \tan x \neq -1$



$D_f = \mathbb{R} - \left\{\frac{k\pi}{2}, k\pi - \frac{\pi}{4}\right\}_{k \in \mathbb{N}}$

ب) $1 \geq \sin^2 x$

$\frac{1}{2} \geq \sin^2 x \rightarrow -\frac{1}{2} \leq \sin x \leq \frac{1}{2}$



$D_f = \mathbb{R} - [k\pi - \frac{\pi}{4}, k\pi + \frac{\pi}{4}]$

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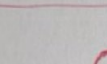
الف) $x > 1$ (I)

$1 \geq \log_{\frac{1}{2}}^{x-1}$

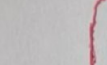
$\frac{1}{2} \geq x - 1 \rightarrow \frac{3}{2} \geq x$ (II)

$D_f = (1, \frac{3}{2}]$

ب) $x^2 - x \geq 0 \rightarrow x(x-1) \geq 0$ (I)



$x^2 - 3x > 0 \rightarrow x(x-3) > 0$ (II)



$1 \neq \log_2^{x^2-3x}$

$x^2 - 3x \neq 2 \rightarrow x^2 - 3x - 2 \neq 0 \rightarrow (x-2)(x+1) \neq 0 \rightarrow \begin{matrix} x \neq -1 \\ x \neq 2 \end{matrix}$ (III)

$D_f = (-\infty, 0) \cup (3, +\infty) - \{2, -1\}$

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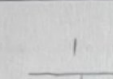
الف) $2^{3x-x^2} \geq 8 \rightarrow -x^2 + 3x - 3 \geq 0$

$-(x-2)(x-1) \geq 0$



$D_f = [1, 2]$

ب) $\frac{3x+5}{3x+2} \in W \rightarrow 3x + 5 \in 3xW + 3W$

$-3W + 5 \in x(3W - 3) \rightarrow x \in \frac{-3W+5}{3W-3}$

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