نام و نام خانوادگی ....امیرحسین ...... پاسخنامه تشریحی تکلیف شماره ...۲... کلاس ....یازده ریاضی B

$2x^2 - 4x + (k - z) = -y^2 - 6y - z \Rightarrow k = 11$

$2\left(x^2 - 2x + \frac{k - z}{2}\right) = -y^2 - 6y - z \qquad \frac{k-z}{2} = 1, \Rightarrow z = 9$

$2\left(x^2 - 2x + \frac{k - z}{2}\right) = -(y^2 + 6y + z)$

$\Rightarrow 2\left(x - \sqrt{\frac{k-z}{2}}\right)^2 = -(y + \sqrt{z})^2 \Rightarrow 2(x-1)^2 = -(y+3)^2$

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$x^2 + 4x = a^2 + 4a$

$2x + a + 2 = 3a + 2$

$3a + 2 = a^2 + 4a$

$\Rightarrow 2 = a^2 + a$

$\Rightarrow a = -2, 1 \Rightarrow f(1) = \begin{cases} a=-2: & x^2 + 4x = 5 \\ a=1: & x^2 + 4x = 2x + 3 = 5 \end{cases} \Rightarrow \boxed{f(1) = 5}$

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$\boxed{|x + 1| \geq 2 \quad x \geq 1 \text{ و } x \leq -3}$

$\Rightarrow \text{if } x = -3 \Rightarrow a + 2x = a - 6 \Rightarrow a - 6 = 18 - b$

$\quad 2x^2 - b = 18 - b$

$\Rightarrow \boxed{a + b = 24}$

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$y = \sqrt{6x - a} + \sqrt{b - 3x} \Rightarrow y = \sqrt{2}\sqrt{3x - \frac{a}{2}} + \sqrt{b - 3x}$

$\Rightarrow b \geq 3x \text{ و } \frac{a}{2} \leq 3x \Rightarrow \frac{a}{2}, b = 3x$

$\Rightarrow$

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الف) $x + 1 \Rightarrow x = -1 \qquad 6 - x \Rightarrow x = 6$

$|x - 3| \Rightarrow x = 3^*$ و $x^2 + 2x + 4 > 0 \Rightarrow + \quad 6 \quad - \quad B$

$-1 \qquad 3^*$

$- \quad + \quad + \quad \Rightarrow \mathbb{R} - (6, +\infty)$

$\Rightarrow \mathbb{R} - \{(-\infty, -1) \cup \{3\}\}$

A

ب) $[x] \geq 4 \Rightarrow x \in [4, +\infty)$

$[x] \leq 2 \Rightarrow x \in (-\infty, 3)$

$[4, +\infty) \cap (-\infty, 3) = \varnothing \Rightarrow D_f = \varnothing$

$A \cap B = [-1, 6] - \{3\}$

الف) $x^2 - x - 6 = 0 \Rightarrow x = 3, -2$ ، $x^4 - 13x^2 + 36 = 0 \Rightarrow x^2 = 4, 9 \Rightarrow x = \pm 2, \pm 3$

$\Rightarrow + \ -3 \ - \ -2 \ - \ 2 \ + \ 3 \ + \Rightarrow D_f = \mathbb{R} - ([-3, 2] \cup \{3\})$

ب) $x^3 - 2x^2 - 5x + 6 \,\big|\, x - 1 \ ;\ x^2 - x - 6 \Rightarrow x = 1, -2, 3$ ۶

$x^3 + 2x^2 - 5x - 6 \,\big|\, x + 1 \ ;\ x^2 + x - 6 \Rightarrow x = -1, -3, 2 \Rightarrow + \ -2 \ + \ -1 \ - \ 1 \ + \ 3 \ +$

$\Rightarrow D_f = \mathbb{R} - ([-1, 1] \cup \{-2, \pm 3\})$

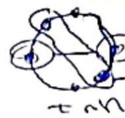
الف) $[-x] \geq 2 \Rightarrow x \in (-\infty, -2]$

ب) $5x^2 + 6 > 0$ ، $[x]^2 - 2[x] - 3 \neq 0 \Rightarrow [x] = 3, -1$

$\Rightarrow x \neq [-1, 0) \cup [3, 4) \Rightarrow D_f = \mathbb{R} - ([-1, 0) \cup [3, 4))$ ۷

تعریف نشده $\tan$

الف) $\dfrac{\cot x + 1}{\tan x + 1}$



$\cot$ تعریف نشده

$\tan x = -1$

$\tan$ تعریف نشده

$\Rightarrow D_f = \mathbb{R} - \{k\pi + \frac{\pi}{2}, k\pi, k\pi + \frac{3\pi}{4} \mid k \in \mathbb{Z}\}$ ۸

ب) $y = \sqrt{1 - 4\sin^2 x} \Rightarrow 1 \geq 4\sin^2 x \Rightarrow \frac{1}{4} \geq \sin^2 x$

$\Rightarrow D_f = \{[-k\frac{\pi}{6}, k\frac{\pi}{6}] \cup [\frac{k5\pi}{6}, \frac{k7\pi}{6}] \mid k \in \mathbb{Z}\}$

الف) $1 - \log_{\frac{1}{2}} (x - 1) > 0 \Rightarrow 1 > \log_{\frac{1}{2}} (x - 1) \Rightarrow x - 1 > \frac{1}{2}$

$\Rightarrow x > 1.5 \Rightarrow D_f = (1.5, +\infty)$

ب) $1 - \log_4 (x^2 - 3x) \neq 0 \Rightarrow x^2 - 3x \neq 4 \Rightarrow x^2 - 3x - 4 \neq 0$ ۹

$\Rightarrow x \neq 4, -1$ ، $x^2 - 3x > 0 \Rightarrow + \ 0 \ - \ 3 \ + \Rightarrow x \in \mathbb{R} - (0, 1) \Rightarrow D_f = \mathbb{R} - [0, 3]$

$x^2 - 3x > 0 \Rightarrow x \in \mathbb{R} - [0, 3]$

$y = \sqrt{2^{4x - x^2} - 8} \Rightarrow 4x - x^2 \geq 3 \Rightarrow x^2 - 4x + 3 \leq 0$

$\Rightarrow x^2 - 4x + 3 \leq 0 \Rightarrow + \ 1 \ - \ 3 \ + \ D_f = [1, 3]$ ۱۰

$\dfrac{2x + 5}{2x + 4} \in W \Rightarrow \dfrac{3W - 5}{2W - 3} \in x \Rightarrow D_f = \{\dfrac{3k - 5}{2k - 3} \mid k \in W\}$