

۱۴/۸۵

در اینجا می بینیم که A

$$2x^2 - 4x + y^2 + 6y + k = 0$$

$$(y+3)^2 \rightarrow y^2 + 9 + 6y$$

$$2x^2 - 4x + y^2 + 6y + k = 0$$

$$x^2 - 2x + \frac{y^2}{2} + 3y + \frac{k}{2} = 0$$

$$y = 2 \rightarrow 2x^2 - 4x + 2 = 0$$

$$\Rightarrow 9 + 2 = 11 = k$$

(۲)

$$9x^2 + 4x \xrightarrow{\text{با } a \text{ جایگزینی}} a^2 + 4a$$

$$\rightarrow a^2 + 4a - 3a - 2 = 0$$

$$2x + a + 2 \xrightarrow{\text{با } a \text{ جایگزینی}} 2a + a + 2$$

$$3a + 2$$

$$a^2 + a - 2 = 0$$

$$(a+2)(a-1) = 0 \rightarrow a = -2 \rightarrow x$$

$$(1)^2 + 4(1) = 5$$

$$f(1)$$

(۲)

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

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

$$2(x+1) - b = a + 2(x+1)$$

$$\rightarrow 2x + 2 - b = a + 2x + 2 \rightarrow 2x = a + b$$

(۲)

$$y = \sqrt{4x-a} + \sqrt{b-3x} \rightarrow 4x \geq a \rightarrow x \geq \frac{a}{4}$$

$$\frac{a}{4} \leq x \leq \frac{b}{3}$$

(۲)

$$\text{الف) } \frac{x+1}{|x-1|} \geq 0$$

$$\frac{4-x}{x^2+3x+4} \geq 0$$

$$\Delta < 0 \rightarrow D_f = [-1, 4] - \{3\}$$

$$2 \geq [x] \rightarrow (-\infty, 2)$$

$$D_f = \emptyset$$

(۲)

$$\text{الف) } \frac{(x-3)(x+2)}{(x^2-9)(x^2-4)} \geq 0$$

$$D_f = (-\infty, -2] \cup [3, 2] \cup (4, +\infty)$$

$$\text{ب) } \frac{(x-1)(x-3)(x+2)}{(x+1)(x+3)(x+4)} \geq 0$$

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

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

(۱, ۵)

$$\text{ب) } [x]^2 - 2[x] - 3 \neq 0 \rightarrow ([x]-3)([x]+1) \neq 0 \rightarrow [x] = 3 \rightarrow [3, 4)$$

الف) $\tan x \neq -1$
 $\cos x \neq 0$
 $\sin x \neq 0$
 $\rightarrow \mathbb{R} - \left\{ k\pi - \frac{\pi}{4}, k\pi + \frac{\pi}{4} \right\} = D_f$

1.5

ب) $1 \geq \sin^2 x \rightarrow \frac{1}{\sqrt{2}} \geq \sin x \geq -\frac{1}{\sqrt{2}} \rightarrow D_f = \left[k\pi - \frac{\pi}{4}, k\pi + \frac{\pi}{4} \right]$

الف) $1 \geq \log_{\frac{1}{2}}(x-1) \rightarrow x-1 \geq \frac{1}{2} \rightarrow x \geq \frac{3}{2} = D_f$

9- جـ عوض $\rightarrow$ اكتبه < 0
 0.5

ب) $x^2 - x \geq 0 \rightarrow x(x-1) \geq 0 \rightarrow (-\infty, 0] \cup [1, +\infty)$

$\log_{\frac{1}{2}}(x^2 - 3x) \neq 1 \rightarrow x^2 - 3x \neq 2 \rightarrow x^2 - 3x - 2 \neq 0$

$x^2 - 3x - 2 > 0$

$\frac{3 \pm \sqrt{17}}{2}$

$(x-4)(x+1) \rightarrow x=4, -1$

$D_f = (-\infty, 0] \cup [1, +\infty) - \{4, -1\}$

الف) $x^2 - 9x \geq x^2 \rightarrow x \geq 9$
 $x^2 + 4x + 3 \geq 0 \rightarrow x = -1, -3 \Rightarrow x = 1, 3$
 $(x+1)(x+3)$

✓

$D_f = [1, 3]$

1.5

ب) $\frac{x^2 + 0}{x^2 + 3} \in \mathbb{W} \Rightarrow \frac{x^2 - 0}{x^2 - 3} \in \mathbb{W} \Rightarrow D_f = \left\{ x \mid x = \frac{k-0}{k-3}, k \in \mathbb{W} \right\}$