

مسئله حل اول

سوال ۱ -

I : $2-m \geq 0 \Rightarrow m \leq 2$ (الف)

II : $4 - \sqrt{2-m} \geq 0 \Rightarrow 4 \geq \sqrt{2-m} \Rightarrow 16 \geq 2-m \Rightarrow m \geq -14$

$D_f = [-14, 2]$

ب) I : $m-2 \geq 0 \Rightarrow m \geq 2$

II : $4 - \sqrt{m-2} \geq 0 \Rightarrow 4 \geq \sqrt{m-2} \Rightarrow 16 \geq m-2 \Rightarrow m \leq 18$

$D_f = [2, 18]$

مسئله ۲ - الف) $4 - 2m^2 \geq 0 \Rightarrow 2m^2 \leq 4 \Rightarrow m^2 \leq 2 \Rightarrow -\sqrt{2} \leq m \leq \sqrt{2}$

$D_f = [-\sqrt{2}, \sqrt{2}]$

ب) $3|m| - 9 \geq 0 \Rightarrow 3|m| \geq 9 \Rightarrow |m| \geq 3 \Rightarrow \begin{cases} m \geq 3 \\ m \leq -3 \end{cases} \Rightarrow D_f = (-\infty, -3] \cup [3, +\infty)$

ج) سوال ۳ - $|m| - 3 \neq 0 \Rightarrow |m| \neq 3 \Rightarrow m \neq \pm 3 \Rightarrow D_f = \mathbb{R} - \{\pm 3\}$ (فرد)

د) سوال ۴ - $\sqrt{m} - 3 \neq 0 \Rightarrow \sqrt{m} \neq 3 \Rightarrow m \neq 9$ } $D_f = [0, +\infty) - \{9\}$ (اشتراک)
I : $m \geq 0$

الف) I : $3|m| \geq 0 \Rightarrow |m| \leq 3 \Rightarrow -3 \leq m \leq 3$ } $D_f = [-3, 3]$ (اشتراک)
II : $|m| + 2 \neq 0 \Rightarrow |m| \neq -2$ (همیشه برقرار)

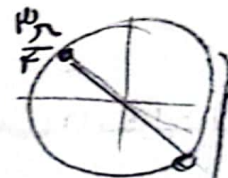
I : $4 - m^2 \geq 0 \Rightarrow m^2 \leq 4 \Rightarrow -2 \leq m \leq 2$ } $D_f = [-2, 2] - \{\pm 1\}$ (اشتراک)
ب) II : $|m| \neq 0 \Rightarrow |m| \neq 1 \Rightarrow m \neq \pm 1$

ب) $\tan \alpha + 1 \neq 0 \Rightarrow \tan \alpha \neq -1 \Rightarrow$

II: $\cos \alpha \neq 0$



III: $\sin \alpha \neq 0$



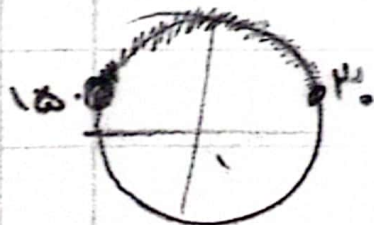
-1

tan alpha

$$\Rightarrow D_f = R - \left[k\pi - \frac{\pi}{4} \leq k\pi \leq k\pi + \frac{\pi}{4} \right]$$

ا) $| \sin \alpha - 1 | > 0 \Rightarrow | \sin \alpha | > 1 \Rightarrow \sin \alpha > \frac{1}{F}$

(ب) $\cos \alpha$



$$D_f = \left[k\pi + \frac{\pi}{4} \leq k\pi + \pi - \frac{\pi}{4} \right]$$

ب) $1 - \cos \alpha > 0 \Rightarrow \cos \alpha < 1 \Rightarrow \cos \alpha < \frac{1}{F}$

$$\Rightarrow D_f = \left[k\pi + \frac{\pi}{4} \leq k\pi + \frac{3\pi}{4} \right]$$

