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$$D = \sqrt{(a-r)x^2 + ax + b}$$

$$\hookrightarrow 0-r=0 \rightarrow a+r$$

$$\sqrt{rx+b} \rightarrow \frac{-b}{r} = x \rightarrow b=-a$$

①

$$x^2 + 2x + 2 - m^2 \geq 0 \rightarrow a > 0$$

$$\min \rightarrow \frac{-b}{2a} \rightarrow -1$$

$$x = -1 \rightarrow 1 - 2 + 2 - m^2 \geq 0 \rightarrow m^2 \leq 1 \rightarrow -1 \leq m \leq 1$$

$$1 - (-1) = 2$$

②

$$\text{صورت} \rightarrow 4 - x^2 \geq 0 \rightarrow x^2 \leq 4 \rightarrow -2 \leq x \leq 2$$

$$\text{مخرج} \rightarrow [x] + [-x] + 1 \neq 0 \rightarrow [x] + [-x] \neq -1 \xrightarrow{x \in \mathbb{R} - \mathbb{Z}} = -1 \rightarrow x \in \mathbb{Z}$$

$$\rightarrow -2, -1, 0, 1, 2$$

$$\hookrightarrow 5$$

③

$$\text{الف) } x^3 + 3x^2 \geq 0 \rightarrow \frac{x^2}{0} \cdot \frac{(x+3)}{-3} \geq 0 \quad \frac{-3}{-3+0+} \rightarrow [-3, +\infty)$$

$$\text{ب) } \frac{\frac{+1}{(x^2-1)} \cdot \frac{+3}{(x^2-3x^2)}}{\frac{x^2-1}{1}} \geq 0 \rightarrow \frac{-1}{+0-} \cdot \frac{+3}{-0-} \rightarrow R - (-1, 3) \cup [0]$$

۱. نباید بداند باشد!
بدون ای صفر عبارت ۰ است و قابل قبول است

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④

$$\text{الف) } |x-2| - 3 \geq 0 \rightarrow |x-2| \geq 3 \rightarrow \begin{matrix} x-2 \geq 3 \rightarrow x \geq 5 \\ x-2 \leq -3 \rightarrow x \leq -1 \end{matrix} \rightarrow R - (-1, 5)$$

$$\text{ب) } 4 - |2-x| \geq 0 \rightarrow |2-x| \leq 4 \rightarrow -4 \leq 2-x \leq 4 \rightarrow \begin{matrix} -6 \leq -x \leq 2 \\ x \leq 6 \end{matrix} \rightarrow [-2, 6]$$

⑤

$$\text{الف) } |1-x| \geq 0 \rightarrow x|x| \leq 1 \rightarrow -1 \leq x|x| \leq 1 \rightarrow \begin{matrix} x=|x| \xrightarrow{x \geq 0} -1 \leq x^2 \leq 1 \rightarrow [0, 1] \\ x=-|x| \xrightarrow{x < 0} 1 \leq x^2 \leq 1 \rightarrow [-1, 0] \end{matrix}$$

$$D_f = [-1, 1]$$

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⑥

$$\text{ب) } 4 - |x-5| - 1 \geq 0 \rightarrow |x-5| \leq 3 \rightarrow -3 \leq x-5 \leq 3 \rightarrow 2 \leq x \leq 8 \rightarrow (2, 8)$$

$$\sqrt{3-|x-5|} - 1 \geq 0$$

صورت سوال را استهسته نوشتیم!

$$\text{الف) } \cos x \neq 0 \rightarrow \frac{\pi}{2}, \frac{3\pi}{2} \quad R - \{\pi + \frac{\pi}{2}\}$$

$$\text{ب) } 2\cos x - 1 \neq 0 \rightarrow 2\cos x \neq 1 \rightarrow \cos x \neq \frac{1}{2} \rightarrow \frac{\pi}{3}, \frac{5\pi}{3} \rightarrow R - \{2k\pi \pm \frac{\pi}{3}\}$$

⑦

$$\text{الف) } |2x+1| - |x+3| \neq 0 \rightarrow |2x+1| \neq |x+3| \rightarrow \begin{matrix} 2x^2+4x+1 \neq x^2+6x+9 \rightarrow x^2-2x-8 \neq 0 \\ x^2 \pm \sqrt{4+48} \rightarrow \frac{x \pm 10}{2} \rightarrow x_1 = \frac{10}{2} \rightarrow R - \{\frac{10}{2}, \frac{-10}{2}\} \end{matrix}$$

⑧

$$\frac{x \pm \sqrt{4+48}}{2} \rightarrow \frac{x \pm 10}{2} \rightarrow x_1 = \frac{10}{2} \rightarrow R - \{\frac{10}{2}, \frac{-10}{2}\}$$

$$\text{ب) } |2x+1| - |x+3| \geq 0 \rightarrow |2x+1| \geq |x+3| \rightarrow \begin{matrix} 4x^2+4x+1 \geq x^2+6x+9 \rightarrow 3x^2-2x-8 \geq 0 \rightarrow \frac{x}{3} \geq 2 \\ \frac{-2 \pm \sqrt{4+96}}{6} \rightarrow \frac{-2 \pm 10}{6} \end{matrix}$$

$$\frac{-2 \pm \sqrt{4+96}}{6} \rightarrow \frac{-2 \pm 10}{6} \quad R - (\frac{-10}{6}, \frac{2}{3})$$

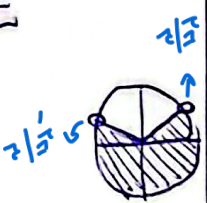
$$rx-1 > 0 \rightarrow x > \frac{1}{r}$$

$$\log_{\omega} r^{x-1} > 0 \rightarrow rx-1 > 1 \rightarrow rx > 2 \rightarrow x > \frac{2}{r}$$

$$\log_{\omega} r^{x-1} > 0 \rightarrow 0 < \log_{\omega} r^{x-1} < 1 \rightarrow 0 < rx-1 < 1 \rightarrow x > \frac{1}{r}$$

$$\log_{\omega} r^{x-1} < 1 \rightarrow rx-1 < 1 \rightarrow rx < 2 \rightarrow x < \frac{2}{r}$$

$$\text{الف) } r \cos x + 1 > 0 \rightarrow \cos x > -\frac{1}{r}$$



$$D_f = R - \left[r \cos \frac{\pi}{2}, r \cos \left(\frac{3\pi}{2} + \frac{\sqrt{1-r^2}}{r} \right) \right]$$

$$\frac{x-1}{x+1} > 0 \rightarrow \frac{-1}{3-1} \rightarrow R = [-1, 1]$$

$$\log \frac{x-1}{x+1} > 0 \rightarrow \frac{x-1}{x+1} > 1 \rightarrow \frac{x-1-x-1}{x+1} > 0 \rightarrow \frac{-2}{x+1} > 0$$

$$x+1 < 0 \rightarrow x < -1$$

$$D_f = (-\infty, -1)$$

$$\cos \frac{\pi}{4} = \frac{\sqrt{2}}{2}$$

$$\cos \frac{3\pi}{4} = -\frac{\sqrt{2}}{2}$$

دایره مقابله

1,0

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

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

$\begin{array}{ccccccc} & -1 & 0 & 1 & 2 & & \\ & + & - & + & - & + & \\ & + & - & + & - & + & \end{array}$

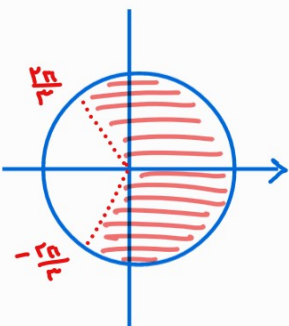
$\begin{array}{c} \Delta < 0 \\ \text{ریشه ها ندارد} \end{array}$

4- ب) $3 - |n-2| \geq 0 \rightarrow |n-2| \leq 3 \rightarrow -3 \leq n-2 \leq 3 \rightarrow 2 \leq n \leq 5$

$\sqrt{3 - |n-2|} - 1 \neq 0 \rightarrow \sqrt{3 - |n-2|} \neq 1 \rightarrow 3 - |n-2| \neq 2 \rightarrow |n-2| \neq 1 \rightarrow n \neq 1, 3$

$D_f = [2, 5] - \{1, 3\} = [2, 3) \cup (3, 5]$

الف - 10) $2C \cdot \sin \alpha + 1 > 0 \rightarrow C \cdot \sin \alpha > -\frac{1}{2}$



$\rightarrow D_f = (2k\pi - \frac{\pi}{2}, 2k\pi + \frac{\pi}{2})$