

$\Delta > 0$ ریشه متمایز نیست!

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$\Delta = 0 \rightarrow$ ریشه مضاعف دارد $\rightarrow x^2 - 1 + fm^2 = 0 \rightarrow f(m^2 - 1) = 0 \rightarrow f(m+1)(m-1) = 0$

$m+1=0 \rightarrow m=-1$

$m-1=0 \rightarrow m=1$

$1 - (-1) = 2$

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$(y+m)(y-x) \geq 0$

$[x] + [-m] + 1 > 0 \rightarrow [x] + [-x] > -1$

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الف) $x^4 + 3x^2 \geq 0 \rightarrow x^2(x^2 + 3) \geq 0$

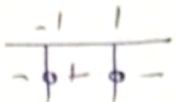
ب) $\frac{(x^2-1)(x^4-3x^2)}{x^4-1} \geq 0$

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الف) $|x-2| - 4 \geq 0 \rightarrow |x-2| \geq 4 \rightarrow x-2 \geq 4 \rightarrow x \geq 6$
 $\rightarrow x-2 \leq -4 \rightarrow x \leq -2$

ب) $x - |x-2| \geq 0 \rightarrow |x-2| \leq x \rightarrow x-2 \leq x \rightarrow x \geq -2$
 $\rightarrow x-2 \geq -x \rightarrow x \leq 2$

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

ب) $\mathbb{R} - \{1\}$

$\sqrt{x^2-1} > 0$!

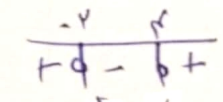
$|x-1| \geq 1 \rightarrow |x-1| \leq 1 \rightarrow x-1 \leq 1 \rightarrow x \leq 2 \cup \mathbb{R}$
 $\rightarrow x-1 \geq -1 \rightarrow x \geq 0$!

الف) $\frac{\sin^2 x - \sin^2 y \cdot \cos^2 x}{\cos x} = -\cos x \quad \mathbb{R}$

ب)

الف) $\mathbb{R} - \{(-\infty, -2] \cup [2, +\infty)\}$

$|2x+1| - |x+2| > 0 \rightarrow |2x+1| > |x+2| \rightarrow (2x+1)(2x-1) > 0$

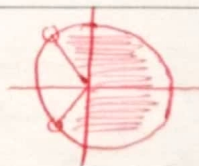
ب) $|2x+1| - |x+2| \geq 0 \rightarrow |2x+1| \geq |x+2| \rightarrow (2x+1)(2x-1) \geq 0$ 
 $\mathbb{R} - \{(-\infty, -2] \cup [2, +\infty)\}$

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

$\mathbb{R} \cap \mathbb{R} \rightarrow x > 1 \cup (1, +\infty)$

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

الف) $2\cos x + 1 > 0 \rightarrow \cos x > -\frac{1}{2}$



$(-\frac{\pi}{3}, \frac{\pi}{3})$

ب)