

الف) $x=1 \Rightarrow y^3-1=2 \Rightarrow y^3=3 \Rightarrow y=\sqrt[3]{3}$ ✓ تعبیر

ب) $|y|+x^2=x+3 \quad x=0 \Rightarrow |y|=3 \begin{cases} y=3 \\ y=-3 \end{cases}$ ✓ تعبیر

ج) $\sqrt{x-2}+|y-2|=0 \Rightarrow x=2 \quad |y-2|=0 \Rightarrow y=2$ ✓ تعبیر

د) $x=\cos y \quad x=0 \Rightarrow y=\frac{\pi}{2}, \frac{3\pi}{2}$ X تعبیر

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الف) $\frac{x+2}{x^2-2x} \rightarrow x^2-2x \neq 0 \Rightarrow x \neq 0, 2$ $P_f = R - \{0, 2\}$

ب) $\frac{x+2}{x^2+2x+2} \rightarrow$ دلتا منفی ✓ تعبیر

$P_f = R$

ج) $\frac{x+2}{x^2+x+2} \rightarrow$ دلتا منفی ✓ تعبیر

$P_f = R$

د) $\frac{x+2}{x^2-2x} \quad x \neq 0, 2 \quad x^2(x^2-2) \neq 0 \quad x^2(x^2-2) \neq 0 \Rightarrow x \neq \pm\sqrt{2}$ $P_f = R - \{-\sqrt{2}, \sqrt{2}\}$

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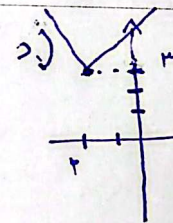
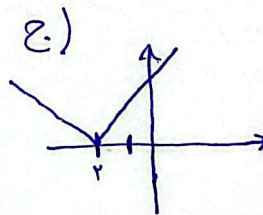
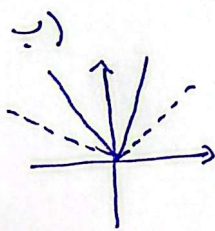
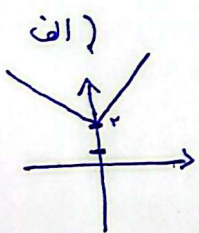
الف) $\begin{cases} 4-x \geq 0 \Rightarrow x \leq 4 \\ x-2 \geq 0 \Rightarrow x \geq 2 \end{cases}$ $P_f = [2, 4]$

ب) $\frac{3x+1}{x^2+1} \rightarrow x^2=-1$ $P_f = R$

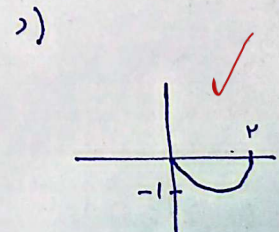
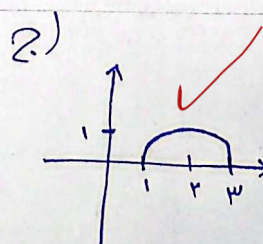
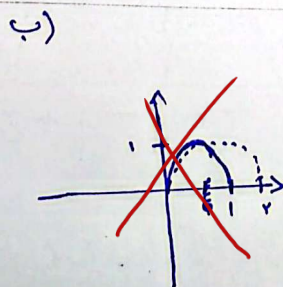
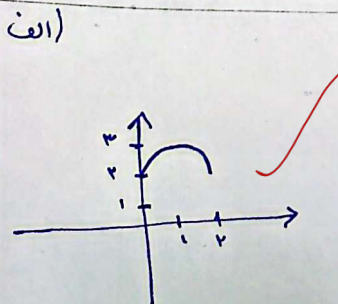
ج) ① $\frac{x-2}{x+2} \neq 0 \Rightarrow x \neq -2$ ② $\frac{x-2}{x+2} \geq 0 \Rightarrow x \geq 2$ $P_f = [2, +\infty) - \{-2\}$

د) $y = \frac{2x+3}{|x|+x}$ $P_f = R - \{0\}$

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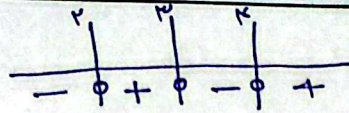


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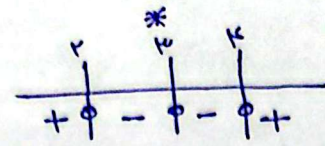
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الف) $n=2$
 $n=3$
 $n=4$



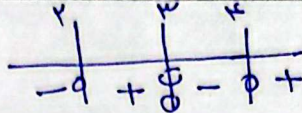
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ب) $n=2$
 $n=3$
 $n=4$



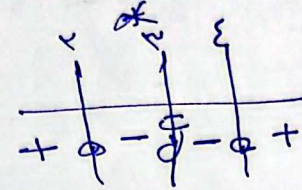
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الف) $n=2$ $n=4$
 $n=3$



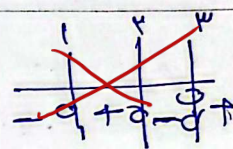
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ب) $n=2$ $n=4$
 $n=3$



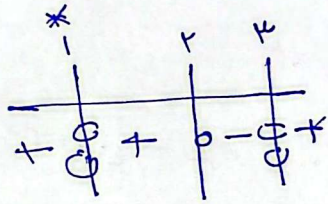
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الف) $\frac{s^2-1}{s^2+2s+1} = 1$
 $n=3$



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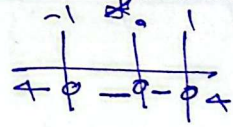
ب) $\frac{(s-2)(s-1)}{(s+3)(s-1)^2}$
 $n=3$ $n=4$



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الف) $\frac{s^2(s^2-1)}{s^2+2s+1}$
 $n=3$ $n=4$

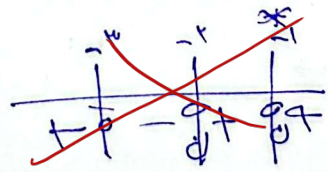


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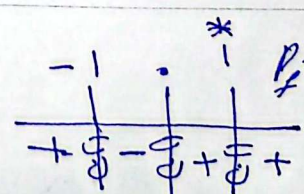
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ب) $\frac{(s+3)(s+1)}{(s+2)(s+1)}$
 $n=3$ $n=4$



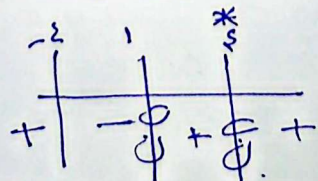
الف) $\frac{s^2-1}{s^2-n}$
 $n=3$ $n=4$



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ب) $\frac{(s-1)(s+1)}{(s-1)(s-1)}$
 $n=3$ $n=4$



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