

تابع است $\Rightarrow y_1 = y_2 \Rightarrow y_1 = y_2$ ✓
 $y_1^2 = 2x^2 + x \Rightarrow y_1 = \sqrt{2x^2 + x}$
 $y_2^2 = 2x^2 + x \Rightarrow y_2 = \sqrt{2x^2 + x}$
 تابع نیست $\Rightarrow y_1 = \sqrt{2x^2 + x}$
 $y_2 = \sqrt{2x^2 + x}$
 $|y_1| = |y_2| \Rightarrow y_1 = \pm y_2$ ✓
 $\sqrt{x-2} + |x-2| = 0 \Rightarrow x=1 \Rightarrow 1 + |1-2| = 0 \Rightarrow |1-2| = -1$ ✓
 صورتی که در مخرج قرار بگیرد تابعی نیست
 تابع $x = \cos y \Rightarrow y = \frac{\pi}{4}, \frac{3\pi}{4}$ ✓

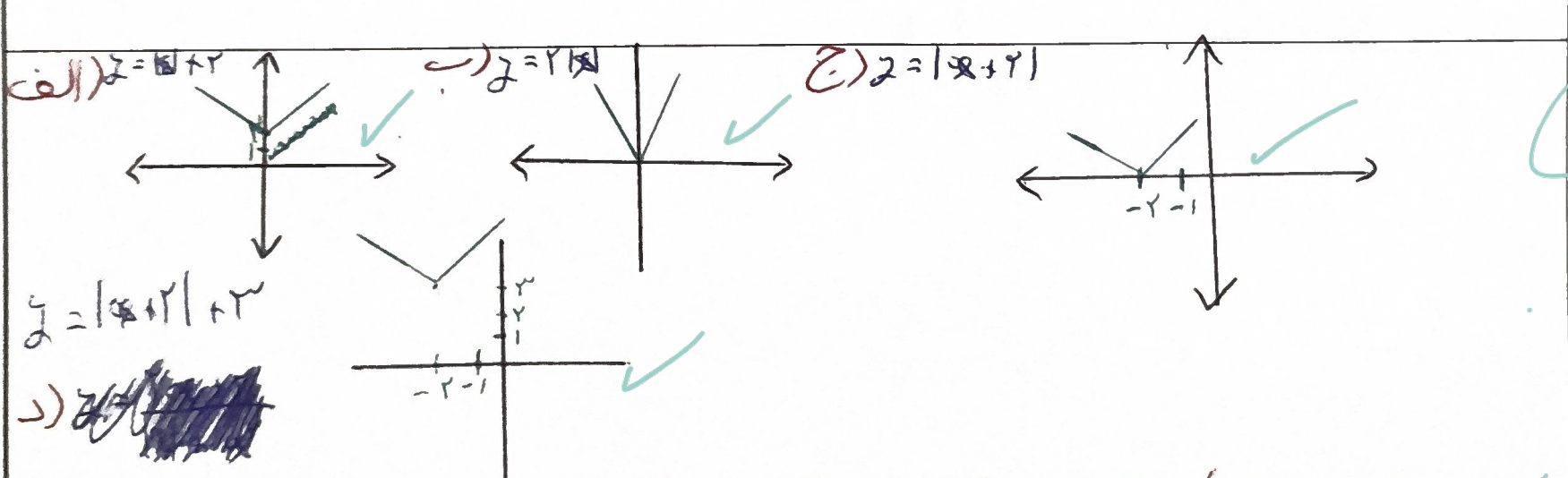
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الف) $y = \frac{x^2 + 2}{x^2 - 2x} \Rightarrow x^2 - 2x = 0 \Rightarrow x^2 = 0 \Rightarrow D_f = R - \{0\}$ ✓
 ب) $y = \frac{x+2}{x^2 - \sqrt{x} + 1} \Rightarrow x^2 - \sqrt{x} + 1 = 0 \Rightarrow -1 = \Delta \Rightarrow D_f = R$ ✓
 ج) $y = \frac{x+2}{x^2 + x + 2} \Rightarrow x^2 + x + 2 = 0 \Rightarrow \Delta = \text{منفی} \Rightarrow D_f = R$ ✓
 د) $y = \frac{x+2}{x^2 - 2x} \Rightarrow x^2 - 2x = 0 \Rightarrow x=0, x=2 \Rightarrow D_f = R - \{0\} - \{2\}$ ✓
 $x^4 - 9x^2 = 0 \Rightarrow x^2(x^2 - 9) = 0 \Rightarrow x^2(x-3)(x+3) = 0 \Rightarrow x \neq \pm 3, 0$

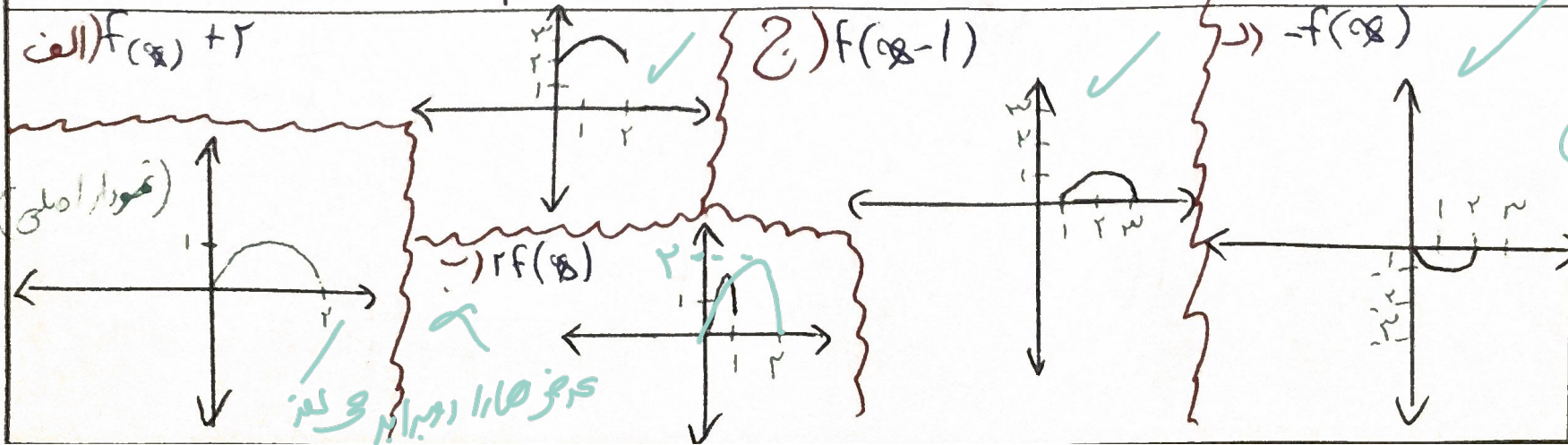
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الف) $y = \sqrt{x-2} + \sqrt{x-2} \Rightarrow D_f = [\sqrt{2} + \infty) \cup [2 + \infty)$ ✓
 ب) $y = \frac{2x+1}{x^2+1} \Rightarrow D_f = R$ ✓
 ج) $y = \frac{\sqrt{x-2}}{x-2} \Rightarrow D_f = [2 + \infty) - \{2\}$ ✓
 د) $y = \frac{2x+3}{|x| + x^2} \Rightarrow D_f = R - \{0\}$ ✓

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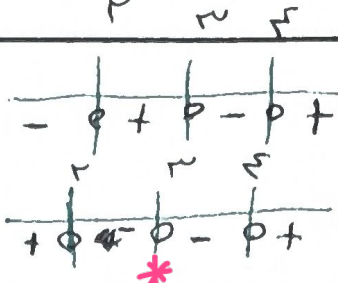


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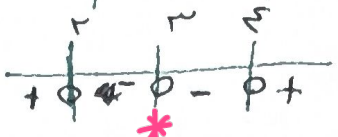


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الف) $y = (x-2)(x-3)(x-4)$

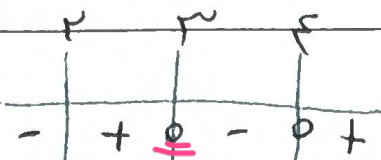


ب) $y = (x-2)(x-3)^2(x-4)$



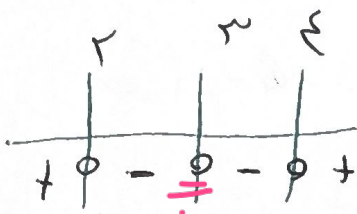
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الف) $y = \frac{(x-2)(x-4)}{x-3}$



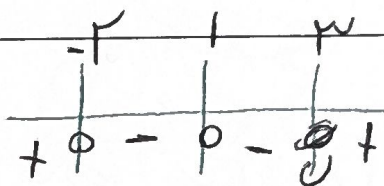
شماره تعریف نشده

ب) $y = \frac{(x-2)(x-4)}{(x-3)^2}$



شماره تعریف نشده

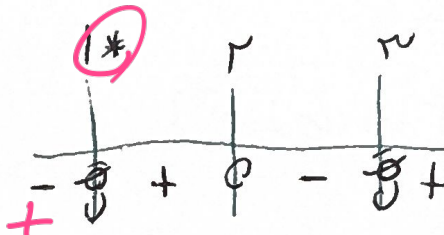
الف) $y = \frac{x^2 - 2x + 2}{x-3}$



فاصله تعریف شده

شماره تعریف نشده در اینجا

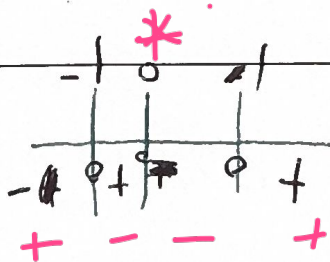
ب) $y = \frac{x^2 - 2x + 2}{x^2 - 2x + 3} = 0$



فاصله تعریف شده

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الف) $y = \frac{x^2 - x - 1}{x^2 + x + 2}$

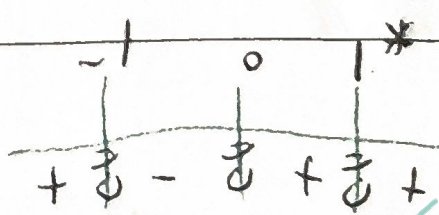


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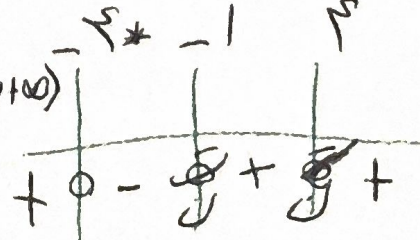
ب) $y = \frac{x^2 + 2x + 2}{x^2 + 2x + 3}$ → بازای تمامی مقادیر مثبت است

الف) $y = \sqrt{\frac{x^2 - 1}{x^2 - x}}$



$D_f = (-\infty, -1) \cup (0, 1) \cup (1, +\infty)$

ب) $y = \sqrt{\frac{x^2 - 16}{x^2 - 4x + 4}}$ → $D_f = (-\infty, 4] \cup (4, 4) \cup (4, +\infty)$



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