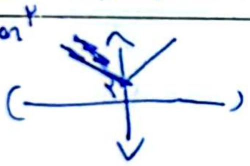
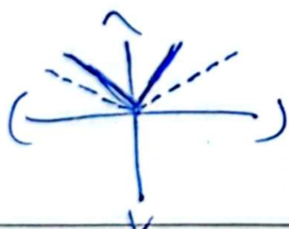
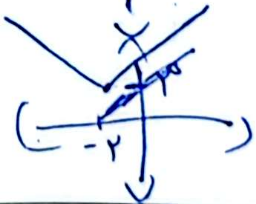
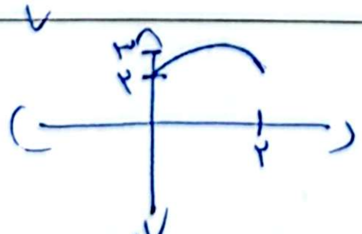
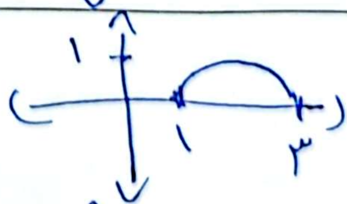
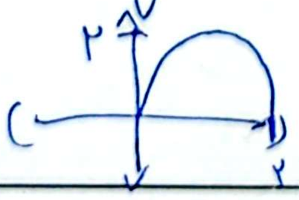
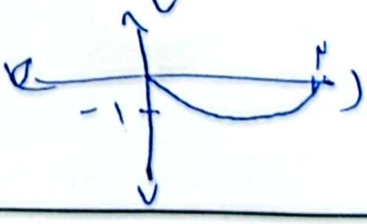
۹

نام و نام خانوادگی .... پاسخنامه تشریحی تکلیف شماره ۲ ..... کلاس دهم ب

۱	الف) $y^3 - x = 2x^2 \to y_2^3 = 2x^2 + x$ ، $y_1^3 = 2x^2 + x$ $\} \Rightarrow y_1^3 = y_2^3 \Rightarrow y_1 = y_2$ ✓ ب) $\lvert y \rvert + x^2 = x + 3 \Rightarrow \lvert y \rvert = -x^2 + x + 3 \xrightarrow{x=0} \lvert y \rvert = 3 \Rightarrow y = \pm 3$ ✗ ج) $\sqrt{x-4} + \lvert y-2 \rvert = 0 \to$ هر دو جمله مثبت $\to \sqrt{x-4} = 0 \Rightarrow x = 4$ ، $\lvert y-2 \rvert = 0 \Rightarrow y = 2$ ✓ د) $x = \cos y \xrightarrow{x=0} \cos y = 0 \Rightarrow y = \frac{\pi}{2}, \frac{3\pi}{2}$ ✗	۲
۲	الف) $y = \frac{x+4}{x^2-4x} \to D_f = \mathbb{R}$ $\to x^2 - 4x \neq 0 \to x \neq 0, 4$ ب) $y = \frac{x+4}{x^2-7x+12} \to D_f = \mathbb{R}$ ✓ ج) $y = \frac{x+4}{x^2+x+4} \to D_f = \mathbb{R}$ ✓ د) $\frac{x+4}{x^4-4x^2} \to \frac{x+4}{x^2(x-2)(x+2)} \to D_f = \mathbb{R} - \{0, 2, -2\}$ ✓	۱.۵
۳	الف) $\sqrt{6-x} + \sqrt{x-2} = y \Rightarrow 6 - x \geq 0 ,\ x - 2 \geq 0$ ؛ $6 \geq x ,\ x \geq 2 \to D_f = [2, 6]$ ✓ ب) $y = \frac{3x+1}{x^2+1} \to D_f = \mathbb{R}$ ✓ ج) $\frac{\sqrt{x-2}}{x-4} \Rightarrow x - 2 \geq 0 ,\ x - 4 \neq 0 \Rightarrow x \neq 4 ,\ x \geq 2 \Rightarrow D_f = [2, 4) \cup (4, +\infty)$ د) $\frac{2x+3}{\lvert x \rvert + x^2} \Rightarrow \lvert x \rvert + x^2 \neq 0 \Rightarrow x \neq 0 \Rightarrow D_f = \mathbb{R} - \{0\}$ ✓	۲
۴	الف)  ج)  ب)  د) 	۲
۵	الف)  ج)  ب)  د) 	۲

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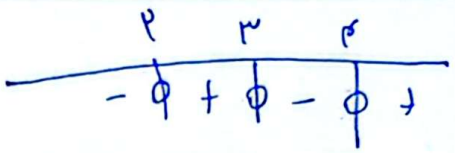
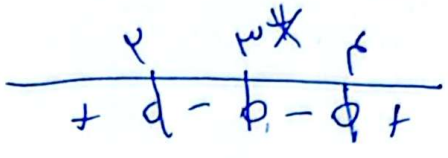
الف) $y=(x-2)(x-3)(x-4)$



ب) $y=(x-2)(x-3)^2(x-4)$



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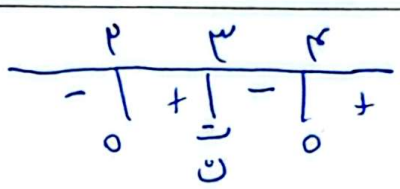
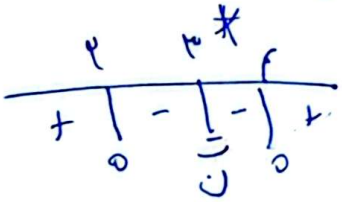
الف) $y=\dfrac{(x-2)(x-4)}{x-3}$



ب) $\dfrac{(x-2)(x-4)}{(x-3)^2}$



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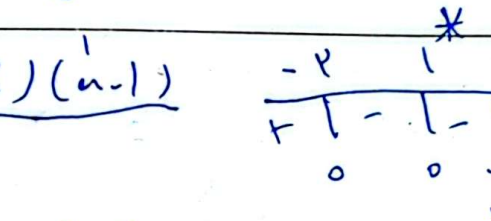
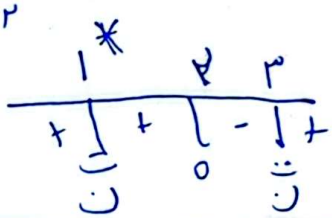
الف) $y=\dfrac{x^3-3x+2}{x-3}=\dfrac{(x-1)(x+2)(x-1)}{x-3}$



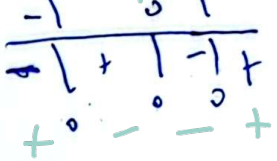
ب) $y=\dfrac{x^2-3x+2}{x^2-6x+9}=\dfrac{(x-1)(x-2)}{(x-3)(x-3)}$ ۲ و ۱ ریشه

۳ ریشه



۹

الف) $y=\dfrac{x^4-x^2}{x^2+x+2}$ ریشه‌ها: $1,-1,0$



ب) $y=\dfrac{x^2+3x+2}{x^2+2x+3}$ بازای هیچ مقادیر x مثبت است

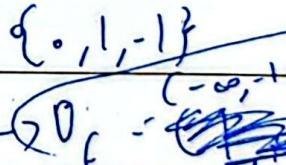
$x\neq\{0,1,-1\}$

۱۰

الف) $y=\sqrt{\dfrac{x^2-1}{x^4-x}}$ $\Rightarrow$ $x^3-x\neq 0 \Rightarrow x^3\neq x \Rightarrow x\neq$

$x^3-1\geq 0 \Rightarrow x^3\geq 1 \Rightarrow x\geq 1$

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



ب) $y=\sqrt{\dfrac{x^2-16}{x^2-5x+6}}=\sqrt{\dfrac{(x+4)(x-4)}{(x-1)(x-6)}}$

$D_f=(-\infty,-4]\cup(1,4)\cup(6,+\infty)$