

نام و نام خانوادگی ... آید و به دسترس ... بهائی پاسخنامه تشریحی تکلیف شماره ... کلاس ...

الف) $y^3 - x = 2x^2$

توضیح ریاضی
تابع هست
 $y^3 - x = 2x^2 \Rightarrow y^3 = 2x^2 + x = y^2$
 $y^3 - x = 2x^2 \Rightarrow y^3 = y^2 \Rightarrow y = y^2 \Rightarrow y = y_1$

ب) $|y| + x^2 = x + 3$

مقاله
نقص
 $|y| + x^2 = x + 3 \Rightarrow |y| + 1 = 1 + 3 \Rightarrow |y| = 3 \Rightarrow y = \pm 3$

2) $\sqrt{x-4} + |y-2| = 0$

ناقص
مرد و ناقص
 $\sqrt{x-4} + |y-2| = 0 \Rightarrow x-4=0 \Rightarrow x=4$
 $|y-2|=0 \Rightarrow y=2$

د) $x = \cos y$

نقص
 $x = \cos y \Rightarrow x \in [-1, 1]$
 $\{k\pi, y \in \mathbb{R} \mid y = 2k\pi\}$

الف) $y = \frac{x+4}{x^2-4x} = \frac{(x+4)}{x(x-4)} \Rightarrow D_f = \mathbb{R} - \{4, 0\}$

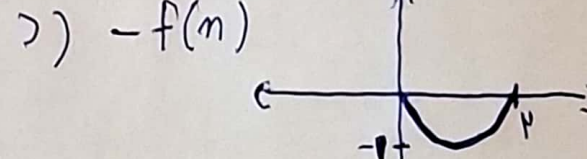
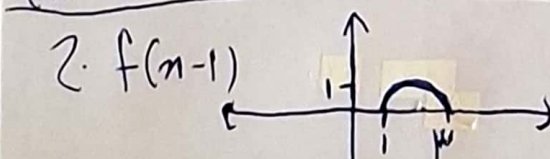
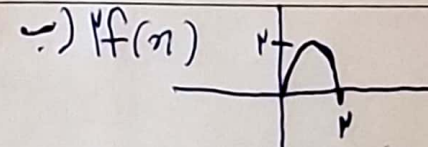
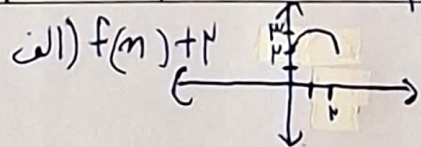
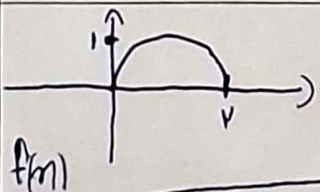
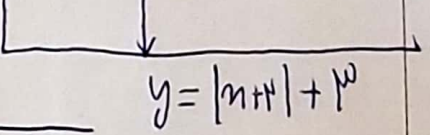
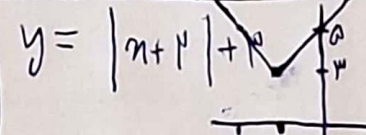
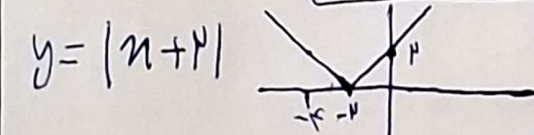
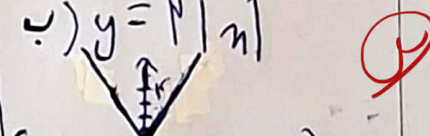
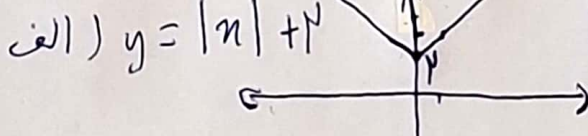
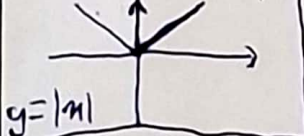
ب) $y = \frac{x+4}{x^2-7x+14}$
مخرج را از 0 و 0
مخرجی نشود
 $x^2 - 7x + 14 \neq 0 \Rightarrow D_f = \mathbb{R}$

2) $y = \frac{x+4}{x^2-4x} \Rightarrow x^2 + x + 4 \neq 0 \Rightarrow D_f = \mathbb{R}$
 $\Delta = 1 - 16 = -15$
مخرجی نیست
 $y = \frac{x+4}{x^2-4x} \Rightarrow x^2 - 4x \neq 0 \Rightarrow x(x-4) \neq 0 \Rightarrow D_f = \mathbb{R} - \{0, 4\}$

الف) $y = \sqrt{4-x} + \sqrt{x-2} \Rightarrow x-2 \geq 0 \cdot x-4 \geq 0 \Rightarrow x \geq 2, x \geq 4 \Rightarrow D_f = [4, \infty)$

ب) $\frac{x^2+1}{x^2+1} \Rightarrow x^2+1 \neq 0 \Rightarrow D_f = \mathbb{R}$

2) $\frac{\sqrt{x-2}}{x-4}$
 $\Delta < 0 \Rightarrow 0 - 4 = -4$
 $\Rightarrow x-2 \geq 0 \cdot x-4 \neq 0 \Rightarrow D_f = [2, \infty) - \{4\}$
مخرج را از 0 و 0
مخرجی نیست
 $\frac{x^2+3}{x^2+1} \Rightarrow |x| + x^2 \neq 0 \Rightarrow D_f = \mathbb{R} - \{0\}$



الف) $y = (n-1)(n-3)(n-4)$

n	1	3	4
	-	+	-

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ب) $y = (n-1)(n-3)^N(n-4)$

۳ ریشه مضاعف

n	1	3	4
	+	-	-

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الف) $y = \frac{(n-1)(n-4)}{n-3}$

ریشه ۱، ۳ و ۴

ب) $y = \frac{(n-1)(n-4)}{(n-3)^2}$

۳ ریشه مضاعف

n	1	3	4
	-	+	-

n	1	3	4
	+	-	-

۷

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

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ریشه مضاعف

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

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