

18/10

نام و نام خانوادگی: قریب الیاس پاسنامه تشریحی تکلیف شماره ۲ کلاس یازدهم رشته ریاضی

الف) $y = \frac{x^3 - 3x^2 + 3x}{(x-1)^3 + 1} \quad (x-1)^3 + 1 = y \quad (x-1)^3 = y-1 \quad \sqrt[3]{y-1} = x-1$
 $R_f = \mathbb{R}$

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ب) $y = \frac{1}{x^2 - 2x} \rightarrow x^2 y - 2xy - 1 = 0 \quad \Delta \geq 0 \quad (-2y)^2 - 4 \times y \times -1 = 4y^2 + 4y$
 $4y(y+1) \geq 0 \quad \frac{-\frac{1}{2}}{+\frac{1}{4} - \frac{1}{4} +}$ $R_f = (-\infty, -\frac{1}{4}] \cup [0, +\infty)$

الف) $y = x^2 - 4x + 10 \xrightarrow{a > 0} x = \frac{-b}{2a} = 2 \quad y = 2 \quad R_f = [2, +\infty)$

ب) $y = -x^2 + 4x + 3 \xrightarrow{a < 0} x = \frac{-b}{2a} = 2 \quad y = 11 \quad R_f = (-\infty, 11]$

ج) $y = \sqrt{x^2 - 4x - 3} \xrightarrow{a > 0} x = \frac{-b}{2a} = 2 \quad y = -5 \quad R_f = [0, +\infty)$

د) $y = \sqrt{4x - x^2} \xrightarrow{a < 0} x = \frac{-b}{2a} = 2 \quad y = 2 \quad R_f = [0, 4]$

الف) $y = x^3 - 5x^2 + 2x + 1 \quad \mathbb{R}$

ب) $y = x^4 - 4x^3 + 3x + 2 \quad \mathbb{R}$

ج) $y = \sqrt{x^4 - 4x^3 + 5x + 1} \quad [0, +\infty)$

د) $y = (x^3 - 4x^2 + 3x + 1)^2 \rightarrow \text{مربع} \quad [0, +\infty)$

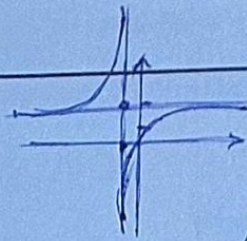
الف) $y = \frac{3x+1}{x-2} \quad \mathbb{R} - \{2\}$

ب) $y = \frac{2x+1}{x+1} \quad \mathbb{R} - \{1\}$

الف) $y = \sqrt{\frac{2x+2}{x+1}} \quad \sqrt{\mathbb{R} - \{1\}} \Rightarrow [0, +\infty) - [\sqrt{2}]$

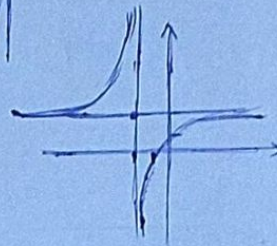
ب) $y = \sqrt{\frac{3x+1}{1-x}} \quad \sqrt{\mathbb{R} - \{1\}} \Rightarrow [0, +\infty)$

الف) $y = \frac{2x-3}{x+1}$ $\Rightarrow$ مجال $x = -1$
 $\Rightarrow$ مجال $y = 2$



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ب) $y = \frac{2x-1}{x+2}$ $\Rightarrow$ مجال $x = -2$
 $\Rightarrow$ مجال $y = 2$



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الف) $y = \sin x + \frac{1}{\sin x}$ $R_f = (-\infty, -2] \cup [2, +\infty)$

ب) $y = \frac{x^4+1}{x^3} \rightarrow x^3 + \frac{1}{x^3}$ $R_f = (-\infty, -2] \cup [2, +\infty)$

ج) $y = \frac{\sqrt[3]{x^2+1}}{\sqrt[3]{x}} \rightarrow \sqrt[3]{x} + \frac{1}{\sqrt[3]{x}}$ $R_f = (-\infty, -2] \cup [2, +\infty)$

د) $y = \sqrt{x} + \frac{1}{\sqrt{x}}$ $R_f = [2, +\infty)$

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الف) $y = x^2 + \frac{1}{x^2+3}$ $\rightarrow$ $\frac{1}{x^2+3}$ $\rightarrow$ $\frac{1}{x^2+3}$ $\rightarrow$ $\frac{1}{x^2+3}$

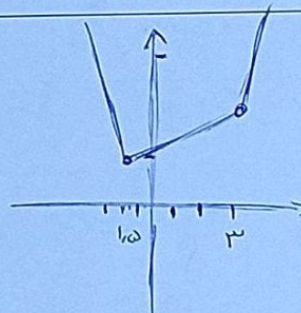
ب) $y = \frac{x^2+5}{\sqrt{x^2+4}}$ $\rightarrow \sqrt{x^2+4} = +$ $y = \frac{+1}{+} = + + \frac{1}{+}$
 $\rightarrow \frac{1}{x^2+4} = \frac{1}{x^2+4}$ $R_f = [\frac{5}{4}, +\infty)$

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$y = |x-3| + |3x+4|$

$\frac{-\frac{4}{3}}{3}$ $\frac{3}{3}$
 $-x+3-3x-4$ $-x+3+3x+4$ $x-3+3x+4$
 $-4x-1$ $2x+7$ $4x+1$

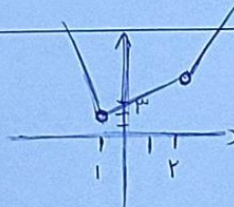


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الف) $y = |x-2| + |2x+2|$

$\frac{-1}{2}$ $\frac{2}{2}$
 $-x+2-2x-2$ $-x+2+2x+2$ $x-2+2x+2$
 $-3x$ $x+4$ $3x$



$R_f = [2, +\infty)$

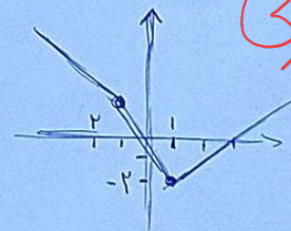
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ب) $y = |2x-2| - |x+1|$

$\frac{1}{2}$ $\frac{1}{2}$
 $-2x+2-x-1$ $-2x+2-x-1$ $2x-2-x-1$
 $-3x+1$ $-3x+1$ $x-3$

$R_f = [-2, +\infty)$



$x^2+3 + \frac{1}{x^2+3} \rightarrow \frac{1}{x^2+3} \rightarrow \frac{1}{x^2+3} \rightarrow \frac{1}{x^2+3}$ $R = [\frac{1}{3}, +\infty)$

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