

دالة ايريسلي وسيدية (مركبة A)

$$y = x - \sqrt{x} + \sqrt{x} \rightarrow (x-1) + 1 \rightarrow R_f = \mathbb{R} \quad \text{الف)}$$

$$yx^2 - 2xy = 1 \rightarrow x^2 - 2x = \frac{1}{y} \rightarrow \Delta = (-2)^2 - 4(-\frac{1}{y}) = 4 + \frac{4}{y} \rightarrow 4(1 + \frac{1}{y}) \geq 0$$

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

$$y = x^2 - 4x + 10 \rightarrow \frac{f}{y} = 2 \rightarrow R_f = [2, +\infty) \quad \text{الف)}$$

$$y = -x^2 + 6x + 2 \rightarrow \frac{-f}{-y} = 3 \rightarrow R_f = (-\infty, 12] \quad \text{ب)}$$

$$\sqrt{x^2 - 4x - 3} \rightarrow \frac{f}{y} = 2 \rightarrow R_f = \sqrt{[-7, +\infty)} \rightarrow R_f = [0, +\infty) \quad \text{ج)}$$

$$\sqrt{6x - x^2} \rightarrow \frac{-f}{-y} = 3 \rightarrow R_f = [0, 3] \quad \text{د)}$$

$$1) R_f = [0, +\infty)$$

$$\text{الف) } R_f = \mathbb{R} \quad \text{ب) } R_f = \mathbb{R} \quad \text{ج) } R_f = [0, +\infty)$$

$$\text{الف) } R_f = \mathbb{R} - \{3\} \quad \text{ب) } R_f = \mathbb{R} - \{2\}$$

$$\text{الف) } \frac{2x-3}{x+1} \rightarrow$$

$$\text{الف) } R_f = [0, +\infty) - \{\sqrt{2}\}$$

$$\text{ب) } R_f = [0, +\infty)$$

$$\text{ب) } \frac{2x-1}{x+2} \rightarrow$$

$$\text{الف) } R_f = (-\infty, -2] \cup [2, +\infty) \quad \text{ب) } x + \frac{1}{x^2} \Rightarrow (-\infty, -2] \cup [2, +\infty)$$

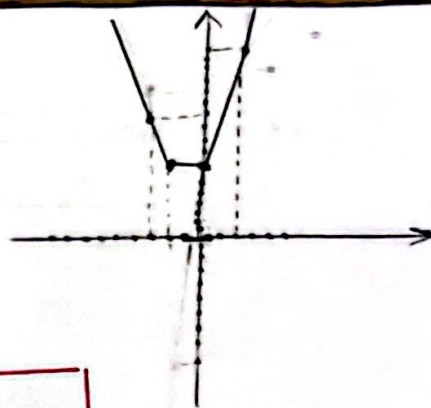
$$\text{ج) } \sqrt{x} + \frac{1}{\sqrt{x}} \Rightarrow (-\infty, -2] \cup [2, +\infty) \quad \text{د) } \sqrt{x} + \frac{1}{\sqrt{x}} \Rightarrow R_f = [2, +\infty)$$

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

$$\text{ب) } \sqrt{x^2 + 3} + \frac{1}{\sqrt{x^2 + 3}} \rightarrow \text{تقريباً } 2 + \frac{1}{2} \Rightarrow R_f = [\frac{5}{2}, +\infty)$$

$$R_f = [\frac{1}{3}, +\infty)$$

$$|x-3| + |2x+3| \rightarrow \begin{array}{c|c|c} -3 & 3 & \\ \hline 2x-3-3x & 2x+3 & x-3+2x+3 \\ \hline -x-1 & & 3x+1 \\ \hline -3 \rightarrow -9 & & \rightarrow 14 \end{array}$$



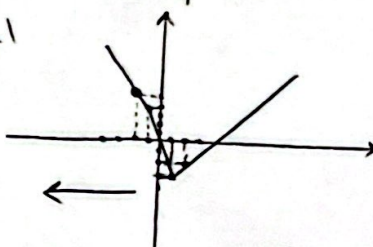
-9

$$\text{الف) } y = |x-2| + |2x+2| \rightarrow \begin{array}{c|c|c} -2 & -1 & 2 \\ \hline x & 2 & 9 \\ \hline & & 9 \end{array}$$

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

$$\text{ب) } y = |2x-2| - |x+1| \rightarrow \begin{array}{c|c|c|c} -2 & -1 & 1 & 2 \\ \hline 2x & 2 & -2 & -1 \\ \hline & & & -1 \end{array}$$

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



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