

②

1

②

2

(1, VA)

②

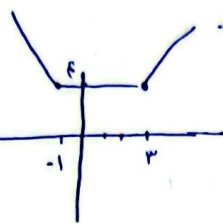
2

②

Δ

$$\hookrightarrow \log_y \underbrace{\left(x + \frac{1}{x}\right)}_{R = (x, u)} \rightarrow \log_y (r, u) \rightarrow R_f = (1, u)$$

$$f) |x-y| - |x-y| \Rightarrow \begin{pmatrix} 1 \\ 0 \end{pmatrix} \begin{pmatrix} -1 \\ 0 \end{pmatrix} \begin{pmatrix} 0 \\ 1 \end{pmatrix} \begin{pmatrix} 0 \\ 1 \end{pmatrix} \Rightarrow R_f = [-1, \infty)$$



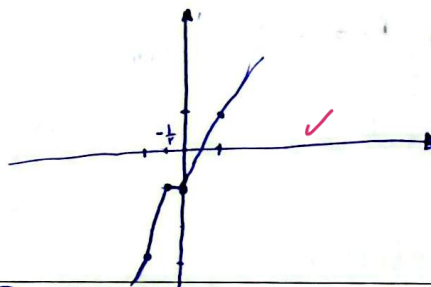
$$g) |x-y| + |x+1| \Rightarrow \begin{pmatrix} 1 \\ 0 \end{pmatrix} \begin{pmatrix} -1 \\ 0 \end{pmatrix} \Rightarrow R_f = [-1, \infty)$$

$$|x-y| - |x+y| \leq 1$$

$x < -1$	$-1 < x < y$	$x > y$
$-x+y-x-y \leq 1$	$-x+y-y-x \leq 1$	$x-y-x-y \leq 1$
$-2x \leq 1$	$-2x \leq 1$	$-2x \leq 1$
$x \geq -\frac{1}{2}$	$x \geq -\frac{1}{2}$	$x \geq -\frac{1}{2}$

$$\Rightarrow R_f = (-\infty, -\frac{1}{2}] \cup [-\frac{1}{2}, \infty)$$

$$y = \frac{1}{x} - |x+1| + |x| \Rightarrow \begin{pmatrix} 1 \\ 0 \end{pmatrix} \begin{pmatrix} -1 \\ 0 \end{pmatrix} \begin{pmatrix} 1 \\ 0 \end{pmatrix} \begin{pmatrix} -1 \\ 0 \end{pmatrix}$$



$$\Rightarrow R_f = \mathbb{R}$$

$$h) y = [x] + [-x+1] \Rightarrow [x] + [-x] + 1$$

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$$R_g = [-1, \infty)$$

$$i) y = \sin^2 x - \sin x + 1 \Rightarrow \sin^2 x = 1$$

$$\Rightarrow \begin{pmatrix} 1 \end{pmatrix}^2 - (1) + 1 = 1$$

$$j) y = \sin^2 x + \sin x + 1 \Rightarrow \sin^2 x = 0$$