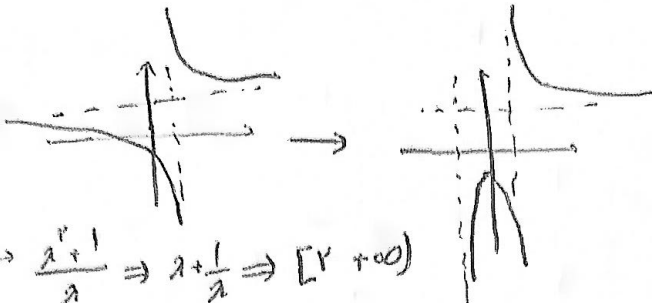


B دو از دسترس

برهان منقولی

$$y = \frac{|a| + 1}{|a| - r}$$



$$\Rightarrow R_f = (-\infty -\frac{1}{r}] \cup (1 + \infty)$$

$$y = \frac{r+1}{|a|}$$

$$\begin{aligned} \text{a)} \rightarrow \frac{r+1}{r} &\Rightarrow r + \frac{1}{r} \Rightarrow [r + \infty) \\ \text{b)} \rightarrow \frac{r+1}{-r} &\Rightarrow -r - \frac{1}{r} \Rightarrow (-\infty -r] \end{aligned}$$

$$\Rightarrow R_f = [r + \infty)$$

$$[r + \infty)$$

$$y = \frac{r^2 + r \cdot r}{r + r}$$

$$\Rightarrow y \cdot r + r \cdot y = r^2 + r \cdot r \Rightarrow r^2 + r \cdot r - y \cdot r - r \cdot y = 0$$

$$r^2 + (r - y) \cdot r - r \cdot y = 0$$

$$r = \frac{y \cdot r \pm \sqrt{y^2 \cdot r^2 - 4 \cdot 1 \cdot r \cdot y}}{2}$$

$$y^2 + 1 \cdot y + r \gg \frac{-y - r}{2 \cdot 1 - 1} = -y - r$$

$$(-\infty -y) \cup [r + \infty)$$

$$y = \frac{r^2 - r + \frac{1}{r}}{r^2 - r + 1}$$

$$D_f = \mathbb{R}$$

$$-r(y-1)(y-\frac{1}{r})$$

$$y^2 - \frac{1}{r}y + \frac{1}{r} - ry^2 + ry + 1$$

$$y \cdot r^2 - y \cdot r + y - r^2 + r - \frac{1}{r} = 0$$

$$r = \frac{y - 1 \pm \sqrt{1 + y^2 - ry - ry^2 + y - 1}}{ry - r}$$

$$(y-1) \cdot r^2 + (1-y) \cdot r + y \cdot \frac{1}{r} = 0$$

$$-ry^2 + ry \gg$$

$$\frac{1}{-1 + 1} = 0$$

$$R_f = [0 \quad 1]$$

$$y = \sqrt{-r^2 + r \cdot r - 1} \rightarrow \text{mon} = \frac{-r}{-r} = 1 \quad -r + 1 - 1 = -r$$

$$R_f = [0 \quad \sqrt{r}]$$

$$y = \sqrt{r^2 - 1} \rightarrow \text{min} = \frac{A}{r} = 1 \quad -1 \quad [-r + \infty)$$

$$y = \log(r^2 - r + 1)$$

$$\rightarrow \log(1) \Rightarrow \log(0 + \infty) = (-\infty + \infty)$$

$$R_f = \mathbb{R}$$

$$y = \log_v(\frac{r^2 + 1}{r})$$

$$R_f \neq$$

$$\frac{r^2 + 1}{r} \gg$$

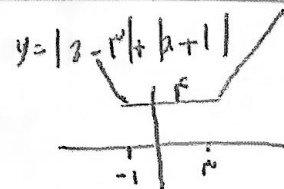
$$\text{min} = \log_v 1 = 1 \quad \frac{1}{-1 + 1} = 0$$

$$R_f = [1 + \infty) \quad r + \frac{1}{r} \gg r$$

$$y = |r \cdot r - r| - |r - r|$$

$$\frac{1}{-r - 1} \cdot \frac{r^2}{r \cdot r + r \cdot r + 1} \cdot \frac{1}{r + 1}$$

$$R_f = [-r + \infty)$$



$$[r + \infty)$$

$$|2-r| = |r+1| < 1$$

$$\begin{array}{c|c|c} & -1 & r \\ \hline r+r & 1-r & -2-r \end{array}$$

-v

$$\begin{array}{l} r+r < 1 \\ r < -r \end{array}$$

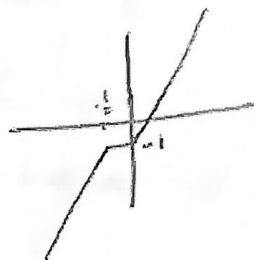
$$\begin{array}{l} -r < 1 \\ r > -1 \\ r > -\frac{1}{r} \end{array}$$

$$\begin{array}{l} -2-r < 1 \\ -r < 0 \\ r > -1 \\ \checkmark \text{ valid} \end{array}$$

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

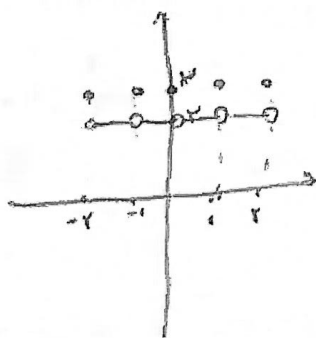
$$y = r^2 - |r+1| + |r|$$

$$\begin{array}{c|c|c} & -\frac{1}{r} & 0 \\ \hline r^2 - |r+1| - 2 & r^2 - |r+1| - 2 & r^2 - 1 \\ \hline r > -1 & -1 & 0 \end{array}$$

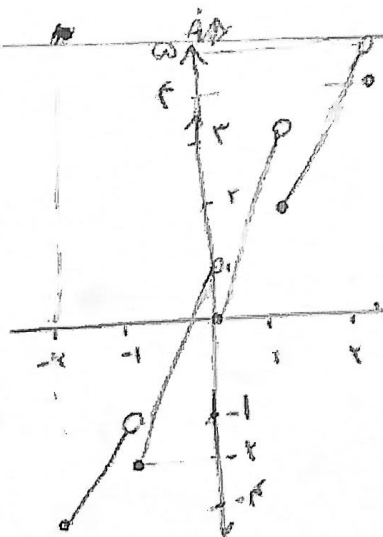


$$R_f = \mathbb{R}$$

$$y = [2] + [r+1]$$



$$y = r^2 - [0]$$



$$y = \sin^r \theta - \sin^r \theta + 1 \quad \left(\begin{array}{c} \text{max} \\ \text{min} \end{array} \right) \begin{array}{c} 1 \\ -1 \end{array} \rightarrow \begin{array}{c} 1 \\ r \end{array} \quad R_f = \left[\frac{r}{r} \quad r \right]$$

$$y = \sin^r \theta + \sin^r \theta + 1 \quad \left(\begin{array}{c} \text{max} \\ \text{min} \end{array} \right) \begin{array}{c} 1 \\ 0 \end{array} \rightarrow \begin{array}{c} r \\ 1 \end{array}$$

$$R_f = [1 \quad r]$$