

1n نیلے سے لے کر

⑤ ①

الف) $y + \omega = m^2$

$\pm \sqrt{y + \omega} = m \quad R = [-\omega, +\infty)$

ب) $y - 1 = m^2 \rightarrow \sqrt{y - 1} = m \quad R = \mathbb{R}$

الف) $m^2 - 4m + 4 + 2 = y \rightarrow (m - 2)^2 + 2 = y$

⑤ ④

$R = [2, +\infty)$

$m - 2 = \pm \sqrt{y - 2}$
 $m = \pm \sqrt{y - 2} + 2$

ب) $m^2 - \omega m + (1 - y) = 0$

$\Delta \geq 0 \rightarrow 4\omega - 4(1 - y) \geq 0$

$m = \frac{-b \pm \sqrt{\Delta}}{2a}$

$4\omega - 4 + 4y \geq 0$
 $y \geq \frac{1 - \omega}{2}$

$R = \left[-\frac{1}{2}, +\infty\right)$

الف) $m^2 + 3 = ym^2 - 2y \rightarrow m^2 - ym^2 = -3 - 2y$

⑤ ③

$m^2(1 - y) = -3 - 2y$

$m^2 = \frac{-3 - 2y}{1 - y}$

$\frac{-1.8}{1 + 0.5 - 0.5} +$

$R = (1, +\infty) \cup (-\infty, -1.8]$

$m = \pm \sqrt{\frac{-3 - 2y}{1 - y}}$

ب) $2|m| + 1 = y|m| - 4y \rightarrow 2|m| - y|m| = -1 - 4y$

$|m|(2 - y) = -1 - 4y$

$|m| = \frac{-1 - 4y}{2 - y}$

$\frac{-1.8}{1 + 0.5 - 0.5} +$

$R = (-\infty, -1.8] \cup (2, +\infty)$

$$\frac{y^2}{a} - \frac{xy}{b} - \frac{1}{c} \geq 0$$

$$\frac{-\frac{1}{\varepsilon}}{4\varepsilon - \varepsilon^2}$$

$$R_f = (0, +\infty) \cup (-\infty, -1/25]$$

$$\Delta \geq 0$$

$$b^2 - 4ac \geq 0$$

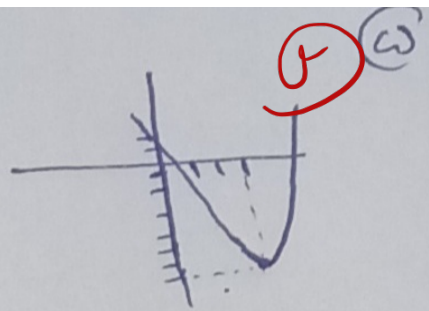
$$14y^2 + 4y \geq 0$$

$$xy(xy+1) \geq 0$$

①

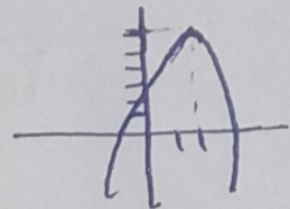
الف) $\min \left| \begin{array}{l} \frac{-b}{2a} = \frac{4}{2} = 2 \\ \frac{-\Delta}{4a} = \frac{-16+1}{4} = \frac{-15}{4} = -3.75 \end{array} \right.$

$R = [-3.75, +\infty)$



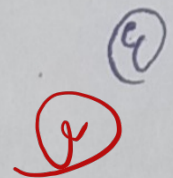
ب) $\max \left| \begin{array}{l} \frac{-b}{2a} = \frac{-4}{-2} = 2 \\ \frac{-\Delta}{4a} = \frac{-16-1}{-4} = \frac{-17}{-4} = 4.25 \end{array} \right.$

$R = (-\infty, 4.25]$



الف) $\min \left| \begin{array}{l} \frac{-b}{2a} = \frac{4}{2} = 2 \\ \frac{-\Delta}{4a} = \frac{-16+1}{4} = \frac{-15}{4} = -3.75 \end{array} \right.$

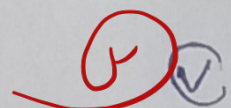
$R = [0, +\infty)$



ب) $\max \left| \begin{array}{l} \frac{-b}{2a} = \frac{-4}{-2} = 2 \\ \frac{-\Delta}{4a} = \frac{-16-1}{-4} = \frac{-17}{-4} = 4.25 \end{array} \right.$

$R = [0, 4.25]$

الف) $R = \mathbb{R}$



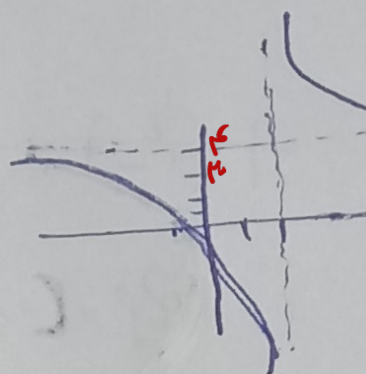
ب) $\sqrt{\mathbb{R}} \leadsto R = [0, +\infty)$

الف) $\mathcal{R} = \mathbb{R} - \{3\}$

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ب) $\mathcal{R} = \sqrt{\mathbb{R} - \{4\}} \rightarrow \mathcal{R} = [0, +\infty) - \{2\}$

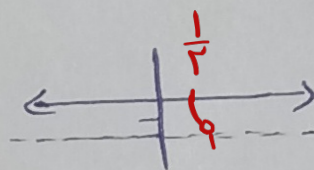
الف) $\mathcal{R} = \mathbb{R} - \{3\}$



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⑨ نظر غلطه!
راه حل دوم نوشته شده

ب) $\frac{x^2-2}{-x+1} = -2$
 $1-x \neq 0 \rightarrow x \neq \frac{1}{2}$



الف) $\mathcal{R} = [2, +\infty)$

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ب) $\sqrt[3]{x + \frac{1}{x}} \Rightarrow \mathcal{R} = (-\infty, -2] \cup [2, +\infty)$
 $x > 0 \rightarrow [\sqrt[3]{2}, +\infty)$
 $x < 0 \rightarrow (-\infty, \sqrt[3]{-2}]$