

19, 5

Subject A

المسائل على شكل د

Date: / /

الف: $y|m| - 2y = |m| + 1 \Rightarrow |m|(y-1) = 1+2y$

$$|m| = \frac{1+2y}{y-1} \rightarrow \frac{-\frac{1}{2}}{+1-1+} (-\infty, -\frac{1}{2}] \cup (1, +\infty)$$

(2)

ب: $|m| + \frac{1}{|m|} \xrightarrow{\text{نقطة}} a + \frac{1}{a} \xrightarrow{\text{نقطة}} a > 0$ $R = [1, +\infty)$
 $R_f = (1, +\infty)$

2) $ym + 2y = m^2 + m - 2 \Rightarrow m^2 + (1-y)m - 2 - 2y$ (2)

$$\Delta = (1-y)^2 - 4(1)(-2-2y) \geq 0 \Rightarrow y^2 + 4y + 12 \geq 0$$

$$(y+2)(y+6) \geq 0 \xrightarrow{-4-2} \frac{-4-2}{+1-1+} (-\infty, -6], [-2, +\infty)$$

3) $D_f \leadsto m^2 + m + 1 \neq 0 \leadsto \Delta = 1-4 < 0 \rightarrow \neq 0$ (2)
 $\Rightarrow D_f = \mathbb{R}$

$$ym^2 - ym + y = m^2 - m + \frac{1}{2} \Rightarrow (y-1)m^2 + (1-y)m + y - \frac{1}{2}$$

$$\Delta = (1-y)^2 - 4(y-1)(y-\frac{1}{2}) > 0 \quad 3y - 3y^2 > 0$$

$$R_f = y \in [0, 1]$$

ك) الف: $x_{\max} = -\frac{k}{-1} = 1$ $\sqrt{(-\infty, 1]}$
 $y_{\max} = -k + 1 - 1 = 1$ (2)

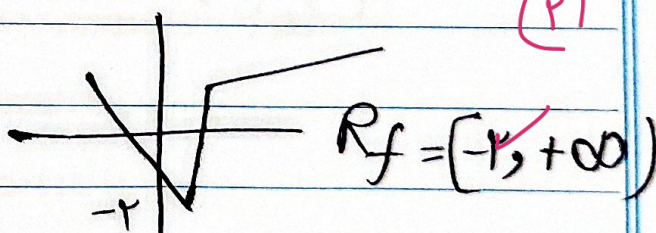
$R_f = [0, \sqrt{3}]$

ب: $x_{\min} = \frac{1}{k} = 1$ $\sqrt{-1, +\infty} \rightarrow [-1, +\infty)$
 $y_{\min} = 1 - 1 - 1 = -1$

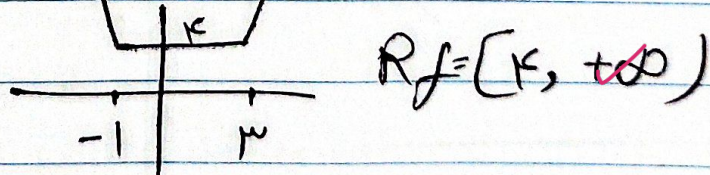
و) الف: $x^2 - x + 1 \rightarrow \mathbb{R} \rightarrow \mathcal{G} \mathbb{R} = \mathbb{R}$ (2)

ب: $\frac{x^2 + 1}{x} \sim x + \frac{1}{x} \sim \bigcup_{x=1}^{\infty} (1, +\infty) = [1, +\infty)$

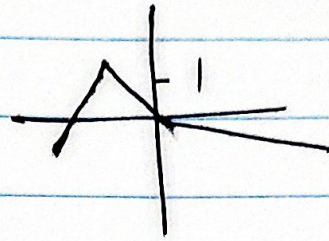
د) الف: $\begin{cases} x > 3 \rightarrow x + 1 \\ 1 < x < 3 \rightarrow x - 1 \\ x < 1 \rightarrow -x - 1 \end{cases}$



ب: منه لا شيء



$$v) \begin{cases} x > 2 \rightarrow -x-4 \\ -1 < x < 2 \rightarrow -3 \\ x < -1 \rightarrow x+4 \end{cases}$$



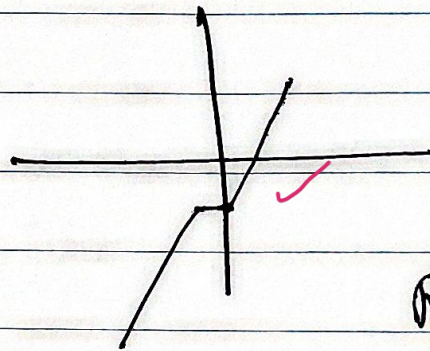
(2)

$$\begin{bmatrix} -3 \\ 1 \end{bmatrix}, \begin{bmatrix} -1 \\ 3 \end{bmatrix}, \begin{bmatrix} 3 \\ -4 \end{bmatrix}$$

$$R_f = (-\infty, -3] \cup [-1, 3) \cup [2, \infty)$$

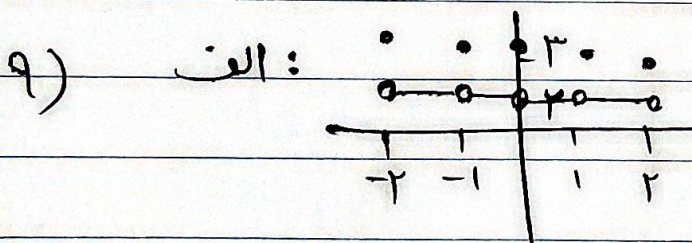
از جواب

$$u) \begin{cases} x > 0 \rightarrow x-1 \\ -\frac{1}{2} < x < 0 \rightarrow -1 \\ x < -\frac{1}{2} \rightarrow -x+1 \end{cases}$$



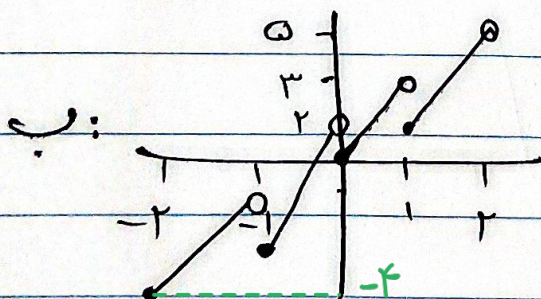
(2)

$$R_f = \mathbb{R}$$



$$R_f = \{1\}, \{3\}$$

(1, 5)



$$R_f = \{1\}, \{3\}$$

$$R_y = [-4, 5)$$

الف :

$$\begin{aligned} \max &= 1 \\ \min &= 3 \\ -\frac{b}{a} &= \frac{4}{3} \end{aligned} \quad R_f = \left[\frac{4}{3}, 3\right]$$

(2)

ب :

$$\begin{aligned} \max &= 3 \\ \min &= 1 \\ -\frac{b}{a} &= -\frac{1}{3} \end{aligned} \quad R_f = [1, 3]$$