

۱۹ آفرین!

ملیاتی

۱ ۲ ۳

$$\left(\frac{y}{x} - \left[\frac{y}{x} \right] \right)^2$$

$$0 \leq < 1$$

$$0 \leq < 2$$

$$0 \leq < 4$$

$$R_f = [0, 4]$$

الف ۱

$$\log y = \frac{\sin 2x + 4}{-1 \leq \leq 5}$$

$$3 \leq \leq 5$$

$$3 \leq \log y \leq 5 \rightarrow 10^3 \leq y \leq 10^5$$

$$R_p = [10^3, 10^5]$$

$$y^2 - 2y = x^2 - 4 \rightarrow x^2(y-1) = y^2 - 4 \rightarrow x = \sqrt{\frac{y^2 - 4}{y-1}}$$

$$\frac{1}{x} - \frac{1}{y} + \frac{1}{z}$$

$$\sqrt{(x, 4]} \cup (1, +\infty) \rightarrow [0, \frac{4}{9}] \cup (1, +\infty)$$

$$a + b + c = 0 + \frac{4}{9} + 1 = \frac{13}{9}$$

$$x + \frac{1}{x} + \left(\sqrt{x + \frac{1}{x}} \right) \rightarrow \sqrt{(2, +\infty)} \rightarrow [\sqrt{2}, +\infty)$$

$$x + \frac{1}{x} \geq 2 \rightarrow x \geq 1$$

$$[2\sqrt{2}, +\infty)$$

$$1 + 2 \sin x - \sin 2x = \sin^2 x \rightarrow -\sin^2 x + 2 \sin x + 1$$

$$1 \rightarrow 4$$

$$-1 \rightarrow 0$$

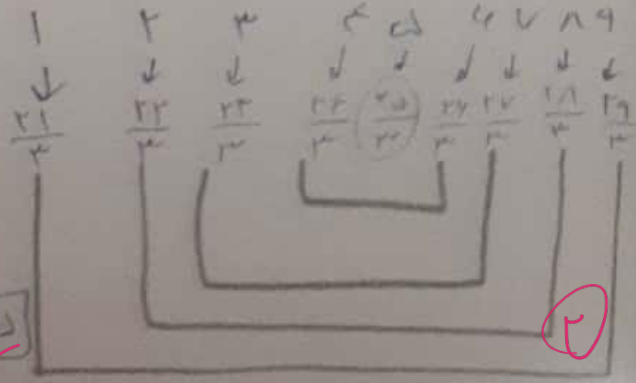
$$\frac{11}{5} - \frac{2}{4} = 1 \rightarrow 4$$

$$R_f [0, 4]$$

$$D: [1, 9] \quad (1) \rightarrow -\frac{1}{9} + 1 = \frac{8}{9}$$

$$(9) \rightarrow -\frac{1}{9} + 1 = \frac{8}{9}$$

$$f\left(\frac{a_0}{r}\right) + \frac{ra}{r} = \frac{ra}{r} = \frac{ra}{r}$$



$$\begin{vmatrix} 1 & 0 \\ 0 & 1 \end{vmatrix} \begin{vmatrix} 1 & 0 \\ 0 & 1 \end{vmatrix}$$

$$\begin{vmatrix} 1 & 0 \\ 0 & 1 \end{vmatrix} \begin{vmatrix} 1 & 0 \\ 0 & 1 \end{vmatrix} \rightarrow \frac{1}{1} = 1 \quad (a)$$

(2)

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

$$x + C = y \rightarrow \begin{vmatrix} 1 & 0 \\ 0 & 1 \end{vmatrix} \rightarrow y + C = 0$$

$$\begin{vmatrix} a & 0 \\ b & 1 \\ c & -1 \end{vmatrix}$$

$$\sqrt{x^2 + F} \quad \sqrt{y^2 + F} = x$$

$$\sqrt{[5+x]} \rightarrow [2, 3+\infty)$$

$$x^2 + F = y$$

$$x^2 = -F + y$$

$$|x-1| + |y-1| = 1$$

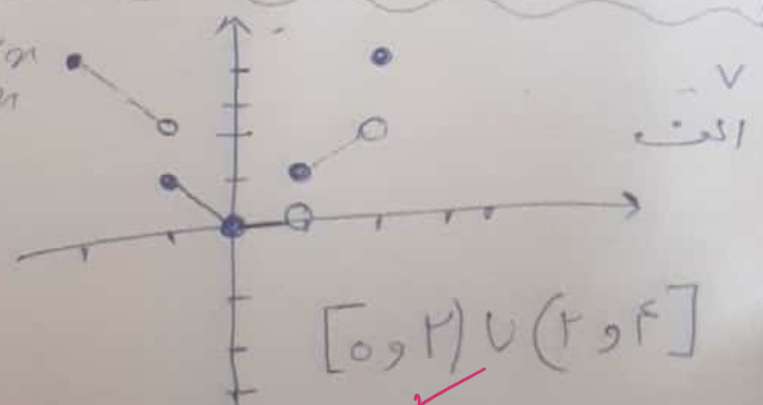
(2)



$$\begin{vmatrix} 1 & 0 \\ -1 & 0 \end{vmatrix} \quad k = -\frac{1}{2}$$

$$k = -\frac{1}{2}$$

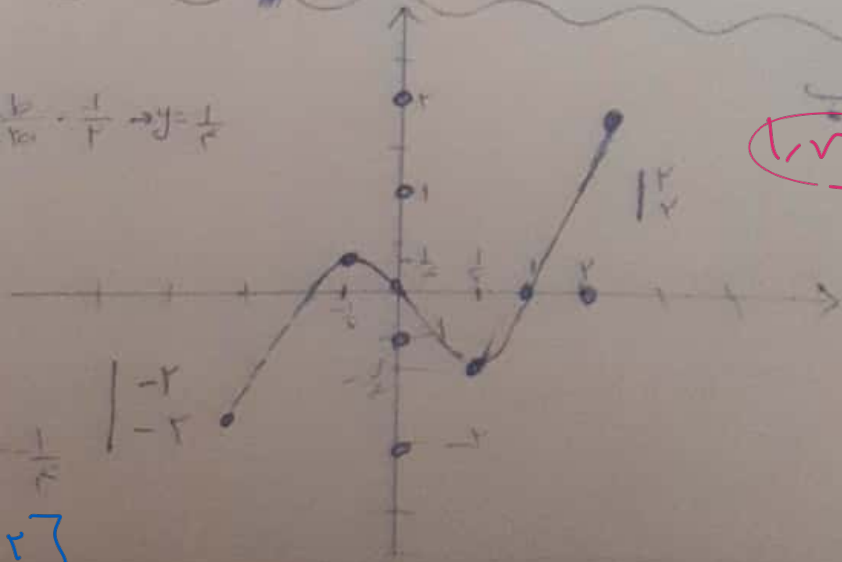
$$x[x] \rightarrow \begin{matrix} -2 \leq < -1 \rightarrow -2x \\ -1 \leq < 0 \rightarrow -x \\ 0 \leq < 1 \rightarrow 0 \\ 1 \leq < 2 \rightarrow x \\ \{2\} \rightarrow 2x \end{matrix}$$



$$[0, 2) \cup (2, 4]$$

$$x|x| = x \rightarrow \begin{matrix} -2 \leq < -1 \rightarrow -x^2 - x \\ -1 \leq < 0 \rightarrow -x^2 - x \\ 0 \leq < 1 \rightarrow x^2 - x \\ 1 \leq < 2 \rightarrow x^2 - x \\ \{2\} \rightarrow x^2 - x \end{matrix}$$

$$\frac{b}{a} \cdot \frac{1}{x} \rightarrow y = \frac{1}{x}$$



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$$R f, [-2, 2]$$

حل المسألة

$$n \neq 0 \quad / \quad n \neq -1 \quad / \quad \underset{\substack{\downarrow \\ \neq 0}}{n} \cdot \underset{\substack{\downarrow \\ \neq -1}}{(n+1)} \neq 0$$

$$D: \mathbb{R} - \{0, -1\} \quad \textcircled{2}$$

$$\frac{n+1}{n+1} + \frac{n}{n+1} + \frac{1}{n+1} = \frac{r(n+1)}{n(n+1)} \Rightarrow y = \frac{r}{n}$$

$\downarrow$
~~not~~
 $n \neq -1$

$$n = \frac{r}{y} \quad \text{by } y \neq 0$$

$$a+b = -r+0 = -r$$

$$n \neq -1 \rightarrow |y \neq -r|$$

$$\sqrt{a} = t$$

(9)

1, 20

$$\frac{+1-1+1}{+1-1+1} = y \rightarrow y+1-1+y+y = +1-1+1$$

$$\underbrace{(y-1)+1}_a + \underbrace{(-1+1)}_b + \underbrace{y-1}_c$$

$$b^2 - 4ac$$

↓

$$4y^2 + 14 - 14y - 4(y-1)(y-1)$$

$$y^2 - 4y + 1$$

$$4y^2 + 14 - 14y - 4y^2 + 8y - 4$$

$$4 \geq 0 \checkmark$$

$$\frac{a \pm b}{c \pm d} \rightarrow f(\infty) = 1$$

$$\hookrightarrow f(0) = \infty$$

$$R \subset (-\infty, 1) \cup [2, +\infty)$$

$$\frac{+1y - 4\sqrt{4}}{4y - 4}$$

$$\hookrightarrow 1 \neq y$$

$$(-\infty, 1) \cup (1, +\infty)$$

$$R = \{a, b\}$$

$$x \neq \pm 1$$

$$\frac{x^2 + 10x^2 - 11x - 2}{x^2 + x} \cdot \frac{x^2 - 1}{x^2 - 1}$$

$$\frac{(x^2 - 1)(x + 2)}{x^2 - 1}$$

$$x \neq \pm 1$$

$$x + 2 = y \rightarrow y - 2 = x$$

$$1 + 1 = 1 \checkmark$$

$$x = 1 \rightarrow 1 = y - 2 \rightarrow y = 3$$

$$x = -1 \rightarrow -1 = y - 2 \rightarrow y = 1$$

Scanned