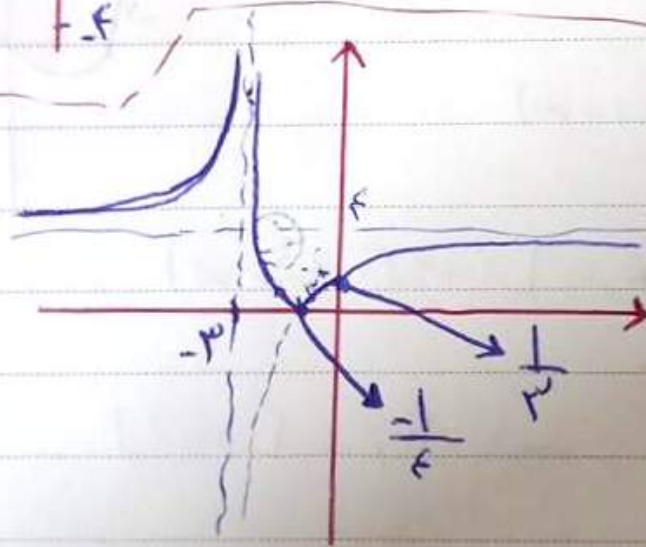
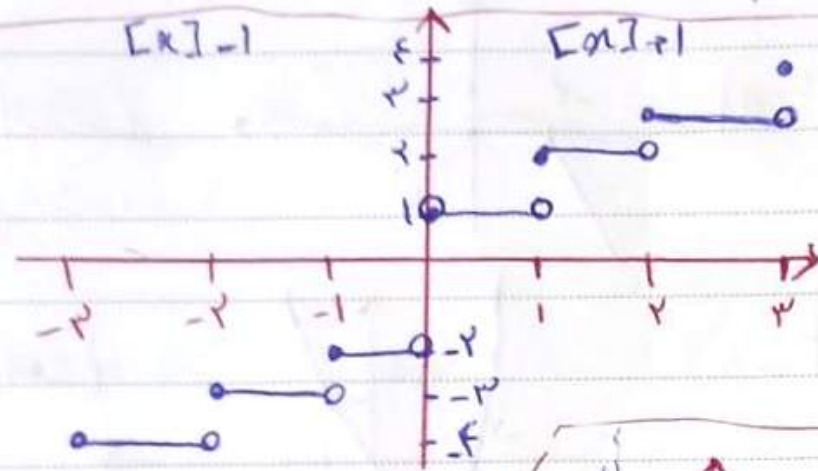


1- (سأشواتي لاد) ١٢ يسر A

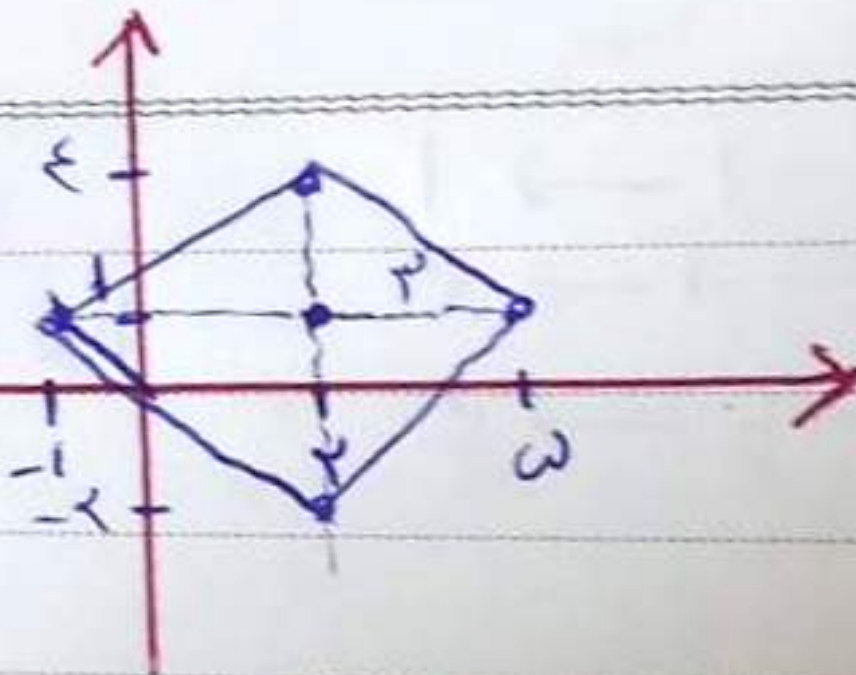
10 $\min \Rightarrow \psi(0) - 1 = -1 \quad \max \Rightarrow \psi(1) - 1 = 1 \Rightarrow R_f \in [-1, 1]$ (الف)

12 $\min \Rightarrow \psi(-1) - \xi = -7 \quad \max \Rightarrow \psi(1) - \xi = -1 \Rightarrow R_g \in [-7, -1]$ (ج)



Year.

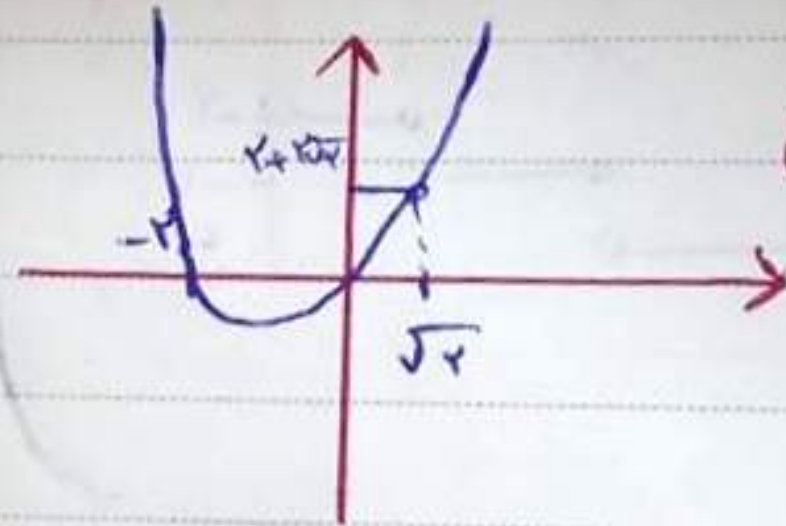
ختم حریجہ



$$\sqrt{x + \frac{1}{x}} \leq t \quad + \sqrt{x} + \sqrt{x}$$

$\Downarrow$

$$t \in [\sqrt{x}, +\infty)$$



(الف)

$$R_f \subseteq [1 + \sqrt{x}, +\infty)$$

$$\sin \left(\begin{array}{c} \xrightarrow{1} f \\ \xrightarrow{-1} 0 \\ \xrightarrow{\frac{-b}{2a}} f \end{array} \right) \Rightarrow R_f \subseteq [0, f]$$

(ب)

Day. Month. Year.

1

$$= \frac{1}{x} \left(\frac{9 \times 10}{x} \right) + 6 \times 9 = 9 + (-10) = \underline{Vd}$$

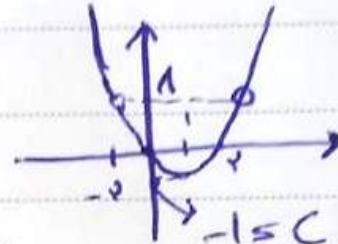
2

-4

$$ax^2 + bx + c \Rightarrow \text{discriminant} \Rightarrow a > 0 \quad \left. \begin{array}{l} yb + c \leq 0 \\ yb + c \leq 1 \end{array} \right\} \Rightarrow b \leq 1 \quad c = -y \quad -V$$

$$\sqrt{x^2 + 1} \Rightarrow R_f \subseteq [1, +\infty)$$

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



$$f\left(\frac{y}{-1}\right) = f(-1) \leq 1 + 1 \leq 2$$

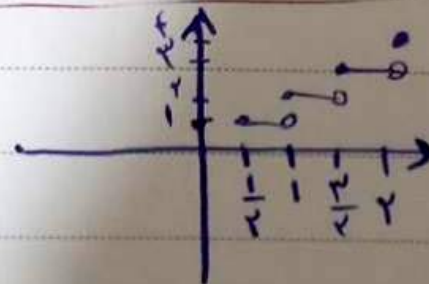
$$\underline{-1 \leq c} \quad \underline{a = -1} \quad \underline{b = 1}$$

$$(x-1)^3 = x^3 - 3x^2 + 3x - 1 \Rightarrow f \leq x-1$$

$$a \leq -1 \quad b \leq 1 \Rightarrow D_f \subseteq [-1, 1] \quad \begin{array}{l} f(a) \leq -1 \\ f(b) \leq 1 \end{array}$$

$$R_f \subseteq [-1, 1]$$

$$[x] + \left[x + \frac{1}{x}\right] \subseteq [2x]$$



10