

اريس مليات

الف)  $y^2 = 2x^2 + 2x - 1 \Rightarrow y_1 = \sqrt{2x^2 + 2x - 1}$   
 $y_2 = \sqrt{2x^2 + 2x - 1} \Rightarrow y_1 = y_2 \Rightarrow$  تابع هس

ب)  $2 \cos y = y \cos 2 \xrightarrow{x=y} 2 \cos y = y \cos 0 \Rightarrow y = \{2k\pi + \pi \mid k \in \mathbb{Z}\} \Rightarrow$  تابع هس

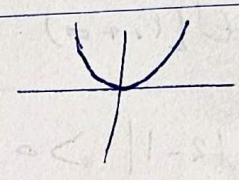
ج)  $2 + y = \sqrt{2y} \Rightarrow 2 - \sqrt{2y} + y = 0 \Rightarrow (\sqrt{2} - \sqrt{y})^2 = 0$

$\Rightarrow \sqrt{2} = \sqrt{y} \Rightarrow y = 2$  تابع هس

د)  $y'(2-y) + 2(2-y) = 0 \Rightarrow (y'+2)(2-y) = 0$

$\Rightarrow y'+2 = 0 \Rightarrow y' = -2 \times$

$2-y = 0 \Rightarrow 2 = y \checkmark$  تابع هس

الف)  $|y| + 2^x = 2y \quad y = \begin{cases} 2^x & y \geq 0 \\ \frac{2^x}{2} & y < 0 \end{cases} \times$   تابع هس

ب)  $(y) + [2] = 1 \xrightarrow{2=0} [y] = 1 \Rightarrow 1 \leq y < 2$  تابع هس

$f(x) = \begin{cases} 2x^2 - 6 & x \geq 2 \\ 2x + a & 0 \leq x < 2 \\ 2x^2 - 6 & x \leq -1 \end{cases} \Rightarrow f(x) = 1 \wedge -6$   
 $\Rightarrow f(x) = 4 + a$   
 $\Rightarrow a + b = 12$

$S = 2 + 2x = -\frac{b}{a} = -6 = a + b \Rightarrow a > -2b \Rightarrow a \neq 2$

$P = 2, 2x = -\frac{c}{a} = -a = ab \Rightarrow a(b+1) = 0 \Rightarrow a = 0 \times$   
 $b = -1$

$a + b = 2 + (-1) = 1$

$$y \neq a = 0 \Rightarrow y = b \neq 0 \xrightarrow{2 \cdot 2} yb + c = 0 \Rightarrow yb = -c$$

-2

$$\frac{2}{y} \neq \frac{1}{b} \Rightarrow b < 0$$

$$yb + c = 0 \Rightarrow 0 + (-b) + yb = b$$

$$y = \sqrt{\frac{ya + y + a + b}{a + b}} \Rightarrow y = \sqrt{\frac{(y+a) + (a+b+y)}{a+b}}$$

-4

$$yb = 0 \Rightarrow b = -1$$

$$c + a = 0 \Rightarrow a = -1$$

$$\text{الف) } y = \sqrt{2^x - 2} = \sqrt{2(2^{x-1} - 1)}$$

-5

$$\Rightarrow D_f = [-1, 0] \cup [1, +\infty)$$

$$\text{ب) } y = \frac{1}{\sqrt{|x| - 1}} \Rightarrow |x - 1| > 0 \Rightarrow |x| > 1 \Rightarrow 2 > 1 \leq x < -1$$

$$\Rightarrow D_f = (-\infty, -1) \cup (1, +\infty)$$

$$\text{ج) } y = \sqrt{\frac{1}{|x| - [x]}} \Rightarrow |x| - [x] \neq 0 \Rightarrow |x| \neq [x]$$

-7

$$\Rightarrow \begin{cases} x \neq [x] & x \geq 0 \rightarrow x \notin \mathbb{W} \\ -x \neq [x] & x < 0 \rightarrow x \in \mathbb{R} \end{cases}$$

$$\Rightarrow D_f = \mathbb{R} - \mathbb{W}$$

$$y = \frac{1}{\sqrt{[x + \frac{x}{y} - 1] + [x + \frac{x}{y}]}} \Rightarrow [x + \frac{x}{y} - 1] + [x + \frac{x}{y}] > 0$$

-9

$$\Rightarrow [x + \frac{x}{y}] + [x + \frac{x}{y}] - 1 > 0$$

$$\Rightarrow 2[x + \frac{x}{y}] > 1 \Rightarrow [x + \frac{x}{y}] > \frac{1}{2} \Rightarrow x + \frac{x}{y} \geq 1 \Rightarrow x \geq \frac{1}{2} \Rightarrow D_f = [\frac{1}{2}, +\infty)$$

$$r_2 - a > 0 \Rightarrow r > \frac{a}{r}$$

$$1 - \log^{(r_2-a)} \geq 0 \Rightarrow \log^{(r_2-a)} \leq 1 \Rightarrow r_2 - a \leq 1 \Rightarrow r \leq d + \frac{a}{r}$$

$$\Rightarrow \frac{a}{r} \leq r < d + \frac{a}{r} \Rightarrow R = \left( \frac{a}{r}, d + \frac{a}{r} \right] = (b, c] \Rightarrow \begin{matrix} b = \frac{a}{r} \\ c = d + \frac{a}{r} \end{matrix}$$

$$\Rightarrow c - b = d + \frac{a}{r} - \frac{a}{r} = d$$