

$$\text{الف) } x = \frac{-a \pm \sqrt{a^2 - 4(-1)(-3)}}{-2} = \frac{-1 \pm \sqrt{1-12}}{-2} \rightarrow \underline{\underline{-1, 2}}$$

$$\text{ب) } x = \frac{1 \pm \sqrt{1 - 4(1)(1)}}{2} = \frac{1 \pm \sqrt{-3}}{2} \times \text{صنفي زير اذغال} \rightarrow \underline{\underline{-1, 2}}$$

$$\text{ج) } x = \frac{1 \pm \sqrt{1 - 4(1)(1)}}{2} = \frac{1 \pm \sqrt{0}}{2} = \frac{1}{2} \leq 1 \rightarrow \underline{\underline{-1, 1}} \text{ (ممكن)}$$

$$\text{د) } x = \frac{1 \pm \sqrt{1 - 4(1)(1)}}{2} = \frac{1 \pm \sqrt{-3}}{2} \times \rightarrow \underline{\underline{-1, 2}}$$

$$\Delta = 9 - 4(1)(a) = 9 - 4a \rightarrow \Delta > 0 \rightarrow 9 - 4a > 0 \rightarrow 9 > 4a$$

$$\boxed{\frac{9}{4} > a}$$

(الف)

$$\Delta = 0 \rightarrow 9 - 4a = 0 \rightarrow 9 = 4a \rightarrow \boxed{a = \frac{9}{4}}$$

(ب)

$$\Delta < 0 \rightarrow 9 - 4a < 0 \rightarrow 9 < 4a \rightarrow \boxed{\frac{9}{4} < a}$$

(ج)

$$\text{هنا ممتدات} \rightarrow \boxed{a > \frac{9}{4}}$$

(د)

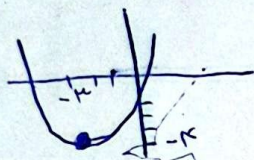
$$\text{الف) } x = \frac{-b}{2a} = \frac{-9}{2} = -4.5$$

$$\text{Min} = \left[\begin{matrix} -4.5 \\ -1 \end{matrix} \right] / \text{Min}$$

$$y = \frac{-\Delta}{4a} = \frac{-(b^2 - 4ac)}{4} = \frac{-(81 - 4(1)(-1))}{4} = \frac{-85}{4} = -21.25$$

1

ب)



$$\text{الف) } x = \frac{-b}{2a} = \frac{-1}{-2} = \underline{\underline{0.5}}$$

$$\text{Max} = \left[\begin{matrix} 0.5 \\ 1 \end{matrix} \right] / \text{Max}$$

$$y = \frac{-\Delta}{4a} = \frac{-(1 - 4(1)(1))}{-4} = \frac{-(-3)}{-4} = \underline{\underline{-0.75}}$$

$$\text{ب) } y = -x^2 + 2x - 1 \rightarrow x^2 - 2x + 1 = 0 \rightarrow (x-1)(x-1) = 0 \rightarrow \boxed{x=1}$$

9

$$\rightarrow [1], [1]$$

$$\cancel{S = \frac{-b}{2a} = \frac{-(-1)}{2} = 0.5}$$

$$S = \frac{-b}{2a} = \frac{-(-1)}{2} = 0.5$$

$$P = \frac{c}{a} = \frac{-1}{1} = -1$$

$$\text{الف) } S^2 - 2P = (0.5)^2 - 2(-1) = 0.25 + 2 = 2.25$$

10

$$\text{ب) } S^2 - 2P = (1)^2 - 2(-1) = 1 + 2 = 3 \rightarrow \boxed{\Delta = 3}$$