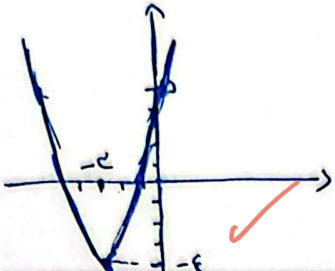
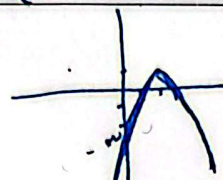


الف) $y = (-2)^2 - 4(-2) + 2 = -4$ ✓
چون مثبت است $\min$ است ✓

ب) $\min \left| \frac{-b}{2a} = -\frac{4}{-4} = 1 \right|$ ✓
 $\text{ext} \left| \frac{-b}{2a} \right|$ جابجایی



الف) $\max \left| \frac{-b}{2a} = \frac{4}{1} = 4 \right|$ ✓
 $\text{ext} \left| \frac{-b}{2a} \right|$ جابجایی



ب) در نقاط ۰ و ۱ قطع می‌کند
برای اینکه بفهمیم معنی در دو نقطه ۰ و ۱ قطع کند باید y را مساوی صفر قرار دهیم

الف) $a=1$ $\begin{cases} n=1 \\ n=\frac{1}{2} \end{cases} \Rightarrow 2n^2 - 4n + 1 = 0$ ضرب در ۲

ب) $a = \frac{9}{n}$ ✓
 $\Delta = b^2 - 4ac = (-4)^2 - 4 \cdot \frac{9}{n} \cdot 1 = 16 - \frac{36}{n}$
 $\Rightarrow 9 - 4n = 0 \Rightarrow n = \frac{9}{4} \Rightarrow c = \frac{4}{9}$

ج) $\Delta = b^2 - 4ac = 16 - 4n \Rightarrow 16 - 4n > 0 \Rightarrow n < 4 \Rightarrow a \in \mathbb{R}, a > 1$ ✓

د) $2n^2 - 4n + 1 = 0 \Rightarrow a \in \mathbb{R}, a \leq 1$ ✓

الف) $x^2 - 2n - 1 = 0 \Rightarrow x^2 - 2n + 1 = 1 \Rightarrow (x-1)^2 = 1 \Rightarrow x-1 = \pm 1 \Rightarrow x = 2 \text{ or } 0$

ب) $x^2 - n - 1 = 0 \Rightarrow x^2 - n = 1 \Rightarrow (x-\frac{1}{2})^2 = 1 + \frac{1}{4} \Rightarrow x - \frac{1}{2} = \pm \sqrt{1 + \frac{1}{4}} \Rightarrow x = \frac{1}{2} \pm \sqrt{1 + \frac{1}{4}}$

ج) $(x - \frac{1}{2})^2 = \frac{5}{4} \Rightarrow x - \frac{1}{2} = \pm \frac{\sqrt{5}}{2} \Rightarrow x = \frac{1 \pm \sqrt{5}}{2}$

الف) $\Delta = b^2 - 4ac = (-4)^2 - 4 \cdot \frac{1}{4} \cdot 1 = 16 - 1 = 15$
 $y = \frac{4 \pm \sqrt{15}}{2} = 2 \pm \frac{\sqrt{15}}{2}$

ب) $\Delta = 1 - 4(1 \cdot \alpha - 4) = 1 + 16 - 4\alpha = 17 - 4\alpha$
 $y = \frac{-1 \pm \sqrt{17}}{4}$

$$n^2 - 11n + 18 = 0 \Rightarrow (n-6)(n-3) = 0 \Rightarrow \begin{matrix} n=6 \\ n=3 \end{matrix}$$

(الف)

$$n^2 + 2n - 18 = 0 \Rightarrow (n+6)(n-3) = 0 \Rightarrow \begin{matrix} n=-6 \\ n=3 \end{matrix}$$

(ب)

$$n^2 - 12n + 18 = 0 \Rightarrow n^2 - 12n + 36 = 0 \Rightarrow (n-6)(n-6) = 0$$

(الف)

$$\Rightarrow n = \frac{12}{2} = 6, n = \frac{36}{2} = 18$$

$$n^2 - 10n + 18 = 0 \Rightarrow n^2 - 10n + 25 = 0 \Rightarrow (n-5)(n-5) = 0$$

(ب)

$$\Rightarrow n = \frac{10}{2} = 5, n = \frac{25}{2} = 12.5$$

$$n^2 - 2n + 1 = 0 \Rightarrow 1 + 1 - 2 = 0 \Rightarrow \begin{matrix} n=1 \\ n=1 \end{matrix}$$

(الف)

$$n^2 + 2n + 1 = 0 \Rightarrow 1 + 1 + 2 = 0 \Rightarrow \begin{matrix} n=-1 \\ n=-1 \end{matrix}$$

(ب)

$$n^2 - 2n + 1 = 0 \Rightarrow \Delta = 4 - 4 \times 1 \times 1 = 0 \quad y = \frac{2 \pm \sqrt{0}}{2} = \frac{2}{2} = 1$$

(ج)

$$n^2 + 12n + 36 = 0 \Rightarrow (n+6)(n+6) = 0 \Rightarrow \begin{matrix} n=-6 \\ n=-6 \end{matrix}$$

(د)

$$n^2 - 2n - 1 = 0$$

$$\Delta = 4 + 4 = 8$$

(الف)

$$\begin{aligned} S_2 &= \frac{b}{a} = \frac{1}{2} \\ P_2 &= \frac{c}{a} = -\frac{1}{2} \end{aligned}$$

(ب)

$$\left(-\frac{1}{2} \pm \frac{\sqrt{8}}{2}\right)^2 - 2\left(-\frac{1}{2} \pm \frac{\sqrt{8}}{2}\right) - 1 = -4 \pm 2\sqrt{2} + 1 = -3 \pm 2\sqrt{2}$$

$$\left(\frac{1}{2}\right) + \left(\frac{1}{2}\right) = \frac{1!}{(1-1)!1!} + \frac{1!}{(1-1)!1!} = \frac{1 \times 1 \times 1!}{1!1!} + \frac{1 \times 1 \times 1!}{1!1!} = 1 + 1 = 2$$

(الف)

$$\left(\frac{1}{2}\right) - \left(\frac{1}{2}\right) = \frac{1 \times 1 \times 1!}{(1-1)!1!} - \frac{1 \times 1 \times 1!}{(1-1)!1!} = 1 - 1 = 0$$

(ب)