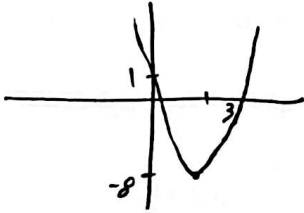


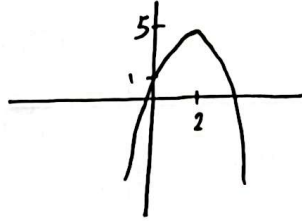
الف) Min  $\rightarrow x = \frac{-b}{2a} = \frac{4}{4} = 1$   $y = 2(1)^2 - 4(1) + 1 = -1$  ext  $\left| \begin{array}{l} 1 \\ -1 \end{array} \right.$

ب) Max  $\rightarrow x = \frac{-b}{2a} = \left( \frac{3}{4} \right)$   $y = \frac{-\Delta}{4a} = -\frac{31}{8}$  ext  $\left| \begin{array}{l} \frac{3}{4} \\ -\frac{31}{8} \end{array} \right.$

الف)  $x^2 - 6x + 1$  ext  $\left| \begin{array}{l} 3 \\ -8 \end{array} \right.$



ب)  $-x^2 + 4x + 1$  ext  $\left| \begin{array}{l} 2 \\ 5 \end{array} \right.$



$$\begin{cases} aB = -2 \\ a + B = 1 \end{cases} \Rightarrow \begin{cases} a = 2 \\ B = -1 \end{cases}$$

$x = -1 \rightarrow -4 + k + 9 - 2 = 0$

$$\begin{cases} k + 3 = 0 \\ k = -3 \end{cases}$$

$$B + A - 2\sqrt{A}\sqrt{B} = 1$$

$$\Rightarrow -3\sqrt{m} + 3m = 1$$

$$\Rightarrow m = 1 \Rightarrow 2x^2 - x - 1 = 0$$

$$\Rightarrow \frac{c}{a} = -\frac{1}{2}$$

$$\frac{-\Delta}{4a} = \frac{7}{8} \Rightarrow \frac{4a^2 - 9}{4a} = \frac{7}{8} \Rightarrow 32a^2 - 28a - 72 = 0 \Rightarrow 8a^2 - 7a - 18 = 0$$

$$\Rightarrow a^2 - 7a - 144 = 0 \Rightarrow (a-16)(a+9) = 0$$

$a = 2$

$a$  بک مقدار

$a = \frac{-9}{8}$

$\bar{x}$

$$\left. \begin{aligned} \frac{\sqrt{\Delta}}{|a|} = 2 \Rightarrow \sqrt{a^2 - 2a + 1} = 2 \\ a - 1 = 2 \Rightarrow a = 3 \\ \sqrt{100 - 4b} = 2 \quad 4b = 96 \Rightarrow b = 24 \end{aligned} \right\} \Rightarrow x^2 - 4x + 3 = 0 \Rightarrow (x-1)(x-3) = 0$$

$$\Rightarrow (6 \times 4) - (3 \times 1) = 21$$

$$\Rightarrow x^2 - 10x + 24 = 0 \Rightarrow (x-4)(x-6) = 0$$

$$\frac{-b}{2a} = \frac{1}{2} \quad \frac{-b}{2a} = \frac{1}{4} \quad b - \frac{b}{2} - 1 = \frac{a^2 + 8a}{4a} \Rightarrow a^2 + 12a = 0 \quad a(a+12) = 0 \quad a = \begin{cases} 0 \\ -12 \end{cases}$$

$$\frac{-\Delta}{4a} = \frac{a^2 + 8a}{4a} \quad \frac{-\Delta}{4a} = \frac{b^2 + 8b}{8b} \quad 12x^2 - 12x + 2 = 0 \Rightarrow x = \frac{1}{4}$$

$$4b^2 + 40b - 4 = 4b(b+10) = 0 \quad b = -10$$

$$-10 - (-12) = 2$$

$$\left. \begin{aligned} \alpha + \beta = \frac{-4}{25a} \\ \alpha\beta = \frac{b}{25a} \end{aligned} \right\} \Rightarrow \begin{aligned} 25a^2 + 25ab = -4 \\ 25a^2b = b \Rightarrow 25a^2 = 1 \Rightarrow a = \pm\left(\frac{1}{5}\right) \end{aligned}$$

$$\underline{a = \frac{1}{5}} \Rightarrow 25ab = -5 \quad b = -1 \rightarrow b < a \quad \bar{x}$$

$$\underline{a = -\frac{1}{5}} \Rightarrow 25ab = -5 \Rightarrow b = 1 \rightarrow b > a \quad \checkmark \Rightarrow \begin{cases} \alpha = -\frac{1}{5} \\ \beta = 1 \end{cases}$$

$$a + b = -a^2 - b^2 + 12 \Rightarrow b(b+1) + a(a+1) - 12 = 0$$

$$(a^2 + a - 6) + (b^2 + b - 6) = 0$$

$$\Rightarrow (a+3)(a-2) + (b+3)(b-2) = 0$$

$$\left. \begin{aligned} a = 2 \\ b = 2 \end{aligned} \right\} a + b = 4$$