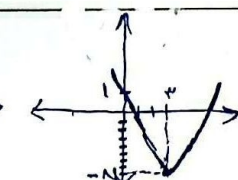
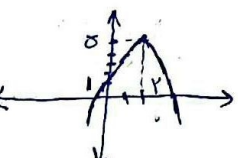


min \rightarrow ext $\left| \begin{array}{l} \frac{-b}{ca} \rightarrow \frac{c}{c} = 1 \\ \frac{-\Delta}{ca} \rightarrow \frac{-1}{1} = -1 \end{array} \right. \rightarrow \text{ext} \left| \begin{array}{l} 1 \\ -1 \end{array} \right.$ (الف)

max \rightarrow ext $\left| \begin{array}{l} \frac{-b}{ca} \rightarrow \frac{-c}{c} = \frac{c}{c} \\ \frac{-\Delta}{ca} \rightarrow \frac{c}{-1} \end{array} \right. \rightarrow \text{ext} \left| \begin{array}{l} \frac{c}{c} \\ \frac{c}{-1} \end{array} \right.$ (ب)

$x_s = \frac{-b}{ca} = \frac{c}{c} = 1$, $y_s = \frac{-\Delta}{ca} = \frac{-1}{1} = -1$ } \Rightarrow  (الف)

$x=0 \rightarrow y=1$, min

$x_s = \frac{-b}{ca} = \frac{-c}{-1} = 1$, $y_s = \frac{-\Delta}{ca} = \frac{-1}{-1} = 1$ } \Rightarrow  (ب)

$x=0 \rightarrow y=1$, max

$x^2 - (a+b)x + ab \rightarrow x^2 - 1x - 2 \rightarrow x^2 - x - 2$
 $kx^2 + knx - a$ $\xrightarrow{\text{با } x \text{ ضرب کنیم}}$ $x^2 - x - 2 \xrightarrow{+}$ $kx + (k+2) \rightarrow k+2 = -1$
 $\Rightarrow x = -2$

$|x_1 - x_2| = \frac{\sqrt{\Delta}}{|a|}$, $\Delta = b^2 - 4ac \rightarrow \Delta = (-3m)^2 - 4(1)(m) = 9m^2 - 4m$

$\frac{\sqrt{9m^2 - 4m}}{1} = 1 \rightarrow \sqrt{9m^2 - 4m} = 1 \rightarrow 9m^2 - 4m = 1 \rightarrow 9m^2 - 4m - 1 = 0 \rightarrow \Delta = (-4)^2 - 4(9)(-1) = 16 + 36 = 52$

$14 + 36 = 52 \rightarrow m = \frac{4 \pm \sqrt{52}}{18} \rightarrow \sqrt{52} = 2\sqrt{13} \rightarrow m = \frac{4 \pm 2\sqrt{13}}{18} = \frac{2 \pm \sqrt{13}}{9}$

$9m^2 - 4m - 1 = 0$, $x_1 x_2 = \frac{c}{a} = \frac{-1}{9} = -\frac{1}{9}$, $m = \frac{2 - \sqrt{13}}{9}$, $x_1 x_2 = -\frac{2 + \sqrt{13}}{18}$

$$y_{\min} = \frac{fac - b^r}{fa} \begin{cases} a=a \\ b=r \\ c=a \end{cases} \rightarrow y_{\min} = \frac{fa^r - a}{fa} = \frac{V}{\Lambda} \quad \times \Lambda a \rightarrow \gamma(fa^r - a) = Va$$

$$\rightarrow \Lambda a^r - \Lambda = Va \rightarrow \Lambda a^r - Va - \Lambda = 0 \rightarrow \Delta = (-V)^r + f \times \Lambda \times \Lambda \rightarrow \sqrt{7r\delta} = 2\delta$$

$$a = \frac{V \pm 2\delta}{14} \rightarrow a_1 = \frac{3r}{14} = r, a_2 = \frac{-1\Lambda}{14} = -\frac{a}{\Lambda} \quad a) \circ \circ \circ \rightarrow a = r \checkmark$$

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$$x_{cut} = -\frac{B}{rA} = -\frac{a}{r(-a)} = \frac{1}{r} \quad y_1 = -a\left(\frac{1}{r}\right)^r + a\left(\frac{1}{r}\right) + r = -\frac{a}{r} + \frac{a}{r} + r = \frac{a}{r} + r$$

$$y_{cut} \Rightarrow \left(\frac{1}{r}, \frac{a}{r} + r\right)$$

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$$b - a = 4$$

$$y = 2b\left(\frac{1}{r}\right) - b\left(\frac{1}{r}\right) - 1 = -1 \Rightarrow \frac{a}{r} + r = -1 \rightarrow \frac{a}{r} = -r \rightarrow a = -r^2$$

$$y = 2b\left(\frac{1}{r}\right) - b\left(\frac{1}{r}\right) - 1 = -1 \Rightarrow \frac{a}{r} + r = -1 \rightarrow \frac{a}{r} = -r \rightarrow a = -r^2$$

$$y = 2b\left(\frac{1}{r}\right) - b\left(\frac{1}{r}\right) - 1 = -1 \Rightarrow \frac{a}{r} + r = -1 \rightarrow \frac{a}{r} = -r \rightarrow a = -r^2$$

$$\frac{1}{r} \rightarrow b = -4$$

$$x_{cut} = -\frac{B}{rA} \rightarrow A = r\delta\alpha, B = f \Rightarrow x_{cut} = \frac{-f}{r(r\delta\alpha)} = \frac{-f}{\delta\alpha} = \frac{-r}{r\delta\alpha}$$

$$\alpha + \beta = -\frac{B}{A} = \frac{-f}{r\delta\alpha}, \alpha\beta = \frac{C}{A} = \frac{B}{r\delta\alpha} \rightarrow r\delta\alpha^r\beta = \beta \rightarrow \beta(r\delta\alpha^r - 1) = 0 \rightarrow r\delta\alpha^r = 1 \rightarrow \alpha = \frac{1}{\delta}$$

$$\beta > \alpha, \alpha = \frac{1}{\delta}, \alpha + \beta = -\frac{f}{r\delta\alpha} \rightarrow \beta = -1 \quad \beta \neq \alpha \rightarrow \alpha = -\frac{1}{\delta}$$

$$-\frac{1}{\delta} + \beta = -\frac{f}{r\delta\alpha\left(-\frac{1}{\delta}\right)} \Rightarrow \beta = 1 \quad 1 > \frac{1}{\delta} \Rightarrow \alpha = -\frac{1}{\delta}$$

$$x_{cut} = \frac{-r}{r\delta\alpha} = \frac{-r}{\delta} \rightarrow \left(\frac{1}{\delta}, \frac{r}{\delta}\right)$$

$$x^r - (a^r + b^r - r)u + a + b - 1 = 0 \Rightarrow a + b = a^r + b^r - r, ab = a + b - 1$$

$$a^r + b^r = (a + b)^r - rab, a + b = (a + b)^r - rab - r \rightarrow a + b = (a + b)^r - ra - rb + r$$

$$a + b = (a + b)^r - r(a + b) - 1 \rightarrow (a + b)^r - r(a + b) - 1 = 0 \rightarrow S^r - rS - 1 = 0$$

$$(S - \delta)(S + r) = 0 \rightarrow a + b = \delta$$