نام و نام خانوادگی ...... پاسخنامه تشریحی تکلیف شماره ...... کلاس ...... دهم ریاضی B

۱

الف)

ext | $\frac{-b}{2a} = 1$ ، $2-4+1 = -1$

$a>0 \to min$

ب)

ext | $\frac{-b}{2a} = \frac{3}{4}$ ، $-2(\frac{9}{16}) + 3(\frac{3}{4}) - 5 = \frac{-31}{8}$

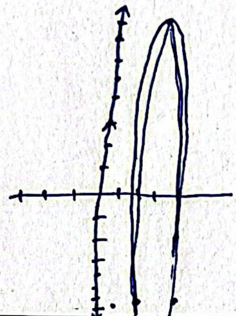
$a<0 \to max$

۲

الف)

ext | $\frac{-b}{2a} = \frac{6}{2} = 3$ ، $9-18+1 = -8$

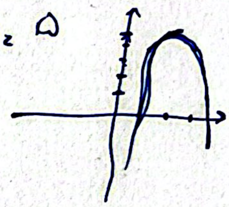
x	y
۲	-۷
۳	-۸
۴	-۷



ب)

ext | $\frac{-b}{2a} = \frac{-4}{-2} = 2$ ، $-4+8+1 = 5$

x	y
۱	۴
۲	۵
۳	۴



۳

$\xrightarrow{\div x} \quad 4x^2 + kx - 9 - \frac{2}{x} = 0$

$S = \alpha+\beta = \frac{-b}{a} = \frac{-k}{4} = 1 \to k = -4$

$P = \alpha\beta = \frac{c}{a} = -2 \to \frac{-9-\frac{2}{x}}{4} = -2$

$-9 - \frac{2}{x} = -8 \to \frac{-2}{x} = +1 \to x = -2$

۴

(۱) $\begin{cases} x_1 + x_2 = 3m \\ x_1 x_2 = m \end{cases}$

$(\sqrt{x_1} - \sqrt{x_2})^2 = (1)^2$

$x_1 + x_2 - 2\sqrt{x_1 x_2} = 1$

$3m - 2\sqrt{m} = 1$

$t = \sqrt{m} \to m = t^2 \to 3t^2 - 2t - 1 = 0$

$(3t+1)(t-1) = 0 \to t = 1 \to m = 1$ ($\sqrt{m}$ مثبت)

(۲) $P = \frac{c}{a} = \frac{-m}{2}$ ، $P = \frac{-1}{2}$

۵

$(0, m)$

$S = \frac{1}{2} \times x_1 \times x_2$

$\frac{1}{2} \times (x_2 - x_1) m = \frac{3}{4}$

$x_2 - x_1 = \frac{\sqrt{(m+2)^2 - 8m}}{2}$

$m\sqrt{(m+2)^2 - 8m} = 3$

$m = 2$

$y = x^2 - mx + 1 \to x_{راس} = \frac{m}{2}$

$\frac{2}{2} = 1$

$\frac{1}{2} \times m \times \frac{\sqrt{(m+2)^2 - 8m}}{2} = \frac{3}{4}$

$y_{min} = \dfrac{-b^2 + 4ac}{4a}$

$y = ax^2 + 3x + a \rightarrow y_{min} = \dfrac{4a^2 - 9}{4a}$

$\dfrac{4a^2-9}{4a} = \dfrac{7}{8} \rightarrow 32a^2 - 72 = 28a \rightarrow 8a^2 - 7a - 18 = 0 \rightsquigarrow$ دو مقدار ۶

(a) $\begin{cases} n + a + 1 = a + 1 \rightarrow a = 2n \\ n(n+1) = a \rightarrow 2n = n(n+1) \end{cases}$ $n = 1$, $a = 2$

$b - a = \dfrac{21}{4} - 2 = \dfrac{13}{4}$

(b) $\begin{cases} 2k, 2k+2 \\ 4k + 2 = 5 \rightarrow k = \dfrac{3}{4} \end{cases}$ ۷

$p = (2k)(2k+2) = \dfrac{21}{4}$

(1) $x_s = \dfrac{-a}{-2a} = \dfrac{1}{2}$

$y_s = -a(\tfrac{1}{4}) + \tfrac{1}{2}a + 2 = a + 8$

(2) $x_s = \dfrac{b}{4b} = \dfrac{1}{4}$

$y_s = 2b(\tfrac{1}{16}) - b(\tfrac{1}{4}) - 1 = -b - 8$

$\longrightarrow b - a = \dfrac{-71 + 64}{7} = \dfrac{-7}{7} = -1$

$a + 8 = 2b(\tfrac{1}{4}) - b(\tfrac{1}{2}) - 1$

$a + 8 = -1 \rightarrow a = -9$

$-9: \dfrac{a + 16}{8} = -b - 8 \rightarrow b = \dfrac{-71}{7}$ ۸

$y = -a(\tfrac{1}{16}) + a(\tfrac{1}{4}) + 2 = -b - 8$

$\Delta = 16 - 8\alpha\beta$

$y = \dfrac{-\Delta}{4a} = \dfrac{-16 + 8\alpha\beta}{8a} \xrightarrow{\beta > \alpha} y > 0$

$x = \dfrac{-b}{2a} = \dfrac{-4}{4a} = \dfrac{-1}{a} \rightarrow x < 0$ ۹

$\begin{cases} x < 0 \\ y > 0 \end{cases} \rightarrow$ ناحیه دوم

$a = 4, b = 2 \rightarrow a^2 + b^2 - 11 = 16 + 4 - 11 = 9 \rightarrow ab - 1 = 7$

$a - b = 4 - 2 = 2$ ۱۰