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10/11/10

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02/11/10

$$\textcircled{1} \quad \begin{cases} \beta^r = a\beta - r \Rightarrow \beta^r - a\beta = -r \\ \alpha + \beta = \frac{-b}{a} = a \Rightarrow \alpha = a - \beta \end{cases} \quad \left\{ \begin{array}{l} \frac{\sum \alpha + \beta^r}{a/\beta^r} = \frac{r - \sum \alpha + \beta^r}{r a \beta - r} = \frac{r}{r} = 1 \end{array} \right.$$

$$\textcircled{2} \quad \frac{n_1 + n_2}{r} = \frac{r - 10}{r} = \frac{r - 10}{r}$$

$$5 \quad \alpha + \beta = r a \beta \Rightarrow r a \beta = 1, a = \frac{1}{r}$$

$$\textcircled{3} \quad n = \frac{-rK \pm \sqrt{\sum K^2 - r}}{r} \Rightarrow n = \frac{-K \pm \sqrt{K^2 - a}}{r}$$

$$+ |n_1 - n_2| = r \sqrt{K^2 - a} = \frac{\sum K}{r} \Rightarrow K^2 - a = \frac{r K^2}{9}$$

$$10 \Rightarrow 9K^2 - \sum a = \sum K^2 \Rightarrow 8K^2 = \sum a \Rightarrow K^2 = 9 \Rightarrow K = \pm 3 \Rightarrow K = 3$$

$$\left[\frac{K^r}{r} \right] = \left[\frac{9}{r} \right] \left[\frac{\sum a}{r} \right] \Rightarrow \left[\frac{\sum a}{r} \right] = \left[\frac{9}{r} \right]$$

$$\textcircled{4} \quad x_5 = \frac{r - a}{r} = -1$$

$$15 \quad x_5 = \frac{\alpha + \beta}{r} = -1 \Rightarrow \alpha + \beta = -r$$

$$\alpha^r + \beta^r = a$$

$$\left(\frac{\alpha + \beta}{r} \right)^r = \frac{\alpha^r + \beta^r}{a} + \frac{r a \beta}{-1} \Rightarrow \alpha \beta = -\frac{1}{r}$$

$$20 \quad y = a(x - \alpha)(x - \beta)$$

$$y = a(x^2 - (\alpha + \beta)x + \alpha\beta) = a(x^2 + rx - \frac{1}{r})$$

$$y_5 = 1, x_5 = -1 \Rightarrow a(1 - r - \frac{1}{r}) = -\frac{r}{r} a = 1 \Rightarrow a = \frac{-r}{r}$$

$$25 \quad y = \frac{-r}{r} (x^2 + rx - \frac{1}{r}) \xrightarrow{x=0} y = \frac{1}{r}$$

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② $x^2 - 2x - m = 0 \quad \frac{4}{4} = 1$

$\Delta = 4 + 4m \geq 0 \Rightarrow 4m \geq -4 \Rightarrow m \geq -1$

$f(x, a) = 0 \Rightarrow f(x, a) = (x-1)^2 - a(x-1) - m = -1/4 - m$

$\Rightarrow -1/4 - m \geq 0 \Rightarrow m \leq -1/4$

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$m \geq -1$
 $m \leq -1/4$ } $m = -1, -1/2, -3/4 \Rightarrow$

④ $x_s = \frac{-b}{2a} = \frac{4}{m}, y_s = c - \frac{b}{2a} = 2m - 1 - \frac{122}{m} = 2m - 1 - \frac{122}{m}$

$\Rightarrow y_s = 2 \Rightarrow 2m - 1 - \frac{122}{m} = 2 \Rightarrow 2m - \frac{122}{m} = 3 \Rightarrow 2m^2 - 3m - 122 = 0$

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$m = \frac{3 \pm \sqrt{9 + 976}}{4}$
 $m_1 = 13 \quad m_2 = -2.5$

$a = \frac{4}{m} = \frac{4}{13} \Rightarrow (2, 2) \Rightarrow x = 2$

⑤ $\alpha + \beta = -2 \quad 2\alpha = 2$

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$\alpha\beta = 4\alpha - 1 \Rightarrow \frac{\alpha}{2} = \frac{\beta}{\alpha}, \alpha = \alpha\beta$

$\alpha^2 = 2\alpha - 1 \Rightarrow \alpha^2 - 2\alpha + 1 = 0 \Rightarrow (\alpha - 1)^2 = 0 \Rightarrow \alpha = 1$

شرط وجود درجه برای $a = 1$ بررسی کن

① $x^2 = t \Rightarrow t^2 - vt - a = 0 \Rightarrow t = \frac{v \pm \sqrt{v^2 + 4a}}{2}$

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$t > 0 \Rightarrow t = \frac{v + \sqrt{v^2 + 4a}}{2} \Rightarrow a = \frac{v^2 + 4t^2}{4}$

$S = r_1 + r_2 = 0 \quad P = r_1, r_2 = \left(\frac{v + \sqrt{v^2 + 4a}}{2} \right)$

25 $\Rightarrow 2 \left(-\frac{v + \sqrt{v^2 + 4a}}{2} \right)^2 - 3(0) \left(-\frac{v + \sqrt{v^2 + 4a}}{2} \right) + 2(0) = 2a + v\sqrt{v^2 + 4a}$

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درست است

9. $x = \frac{-b}{2a} = \frac{-2}{2K} = \frac{-1}{K}$

$y = K(x)^2 - 2(x) - 4 \Rightarrow y = K\left(\frac{-1}{K}\right)^2 - 2\left(\frac{-1}{K}\right) - 4$

5 $\Rightarrow y = \frac{1}{K} - \frac{2}{K} - 4 \Rightarrow y = \frac{-1}{K} - 4$

$\Rightarrow y = -2x - 4 \Rightarrow \left(\frac{-1}{K} - 4\right) = -2\left(\frac{-1}{K}\right) - 4$

$\Rightarrow \frac{-1}{K} - 4 = \frac{2}{K} - 4 \Rightarrow \frac{-1}{K} = \frac{2}{K} \Rightarrow \frac{-1}{K} = \frac{2}{K} \Rightarrow K = -1$

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$x = \frac{-1}{K} = \frac{-1}{-1} = 1$

$y = \frac{-1}{K} - 4 \Rightarrow y = -1 - 4 = -5$

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1. $y = -mx^2 - m(x+1)$

$y = -m - x$

$\Rightarrow -mx^2 - m(x+1) = -m - x$

$\Rightarrow -mx^2 + (m+1)x + m = 0$

$\Delta \geq 0 \Rightarrow (m+1)^2 - 4(1+m)(-m) \geq 0$

$\Rightarrow 4m^2 + 4m + 1 \geq 0$

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$\Rightarrow 4m^2 + 4m + 1 \geq 0$ $\begin{cases} m \geq 1 \\ m = -\frac{1}{2} \end{cases} \Rightarrow \begin{array}{c|c|c} -1 & -\frac{1}{2} & 0 \\ + & - & + \end{array} \Rightarrow (-1, -\frac{1}{2})$

$\Rightarrow \frac{1}{2} \leq m \leq 1$

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