

SUBJECT:

DATA:

NUMBER:

Topic:

(22)

02/11/10

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

$$\textcircled{2} \quad \frac{n_1 + n_2}{r} = \frac{w - 110}{r} = w/va$$

$$5 \quad \alpha + \beta = r \alpha \beta \Rightarrow r \alpha \beta = 110 = \boxed{1, 110} \text{ k.s.}$$

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

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

$$10 \Rightarrow 9K^2 - \Sigma A = \Sigma K^2 \Rightarrow 8K^2 = \Sigma A \Rightarrow K^2 = 9 \Rightarrow K = \pm 3 \Rightarrow \underline{K=9}$$

$$\left[\frac{K^r}{r} \right] = \left[\frac{9}{r} \right] \left[\frac{\Sigma A}{r} \right] \Rightarrow \left[\frac{\Sigma A}{r} \right] = \left[\frac{\Sigma}{r} \right] r$$

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

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

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

$$\underbrace{(\alpha + \beta)^r}_{\Sigma} = \underbrace{\alpha^r + \beta^r}_{a} + \underbrace{r \alpha \beta}_{-1} \Rightarrow \alpha \beta = -\frac{1}{r}$$

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

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

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

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

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مراجعة

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

$\Delta = 4a^2 + 4m \geq 0 \Rightarrow \Delta m \geq -a^2 \Rightarrow m \geq -\frac{a^2}{4} \xrightarrow{a=2} m \geq -1$

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

$\Rightarrow -1/4a - m \geq 0 \Rightarrow m \leq -1/4a \xrightarrow{a=2} m \leq -1$

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$\left. \begin{matrix} m \geq -1 \\ m \leq -1 \end{matrix} \right\} m = -1, -2, -3 \Rightarrow \boxed{0, 1}$

④ $x_s = -\frac{b}{2a} = -\frac{4}{m}, y_s = c - \frac{b}{2a} = am - 1 - \frac{122}{m} = am - 1 - \frac{49}{m}$

$\Rightarrow y_s = 1 \Rightarrow am - 1 - \frac{49}{m} = 1 \Rightarrow am - \frac{49}{m} = 2 \Rightarrow am^2 - 49 = 2m$

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$m = \frac{2 \pm \sqrt{4 + 196}}{a} \quad \begin{matrix} \rightarrow m_1 = 7 \quad \checkmark \\ \rightarrow m_2 = -1/2 \quad \times \end{matrix} \quad m > 0 \Rightarrow m = 7$

$a = \frac{4}{m} = \frac{4}{7} = \frac{4}{7} \Rightarrow (7, 2) \Rightarrow x = 7$

⑤ $\alpha + \beta = -1, 2\alpha = 1$

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

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

① $x^p = t \Rightarrow t^p - vt - a = 0 \Rightarrow t = \frac{v \pm \sqrt{49}}{2}$

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$\xrightarrow{\text{فرض}} t > 0 \Rightarrow t = \frac{v + \sqrt{49}}{2} \Rightarrow a = \pm \sqrt{\frac{v + \sqrt{49}}{2}}$

$S = r_1 + r_2 = 0 \quad P = r_1, r_2 = \left(\frac{v + \sqrt{49}}{2} \right)$

25 $\Rightarrow 2 \left(-\frac{v + \sqrt{49}}{2} \right)^p - 4 \left(-\frac{v + \sqrt{49}}{2} \right) + 2(\cdot) = a^2 + v\sqrt{49}$

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1. 10/10/20

(22)

10/10/20

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

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

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

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

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

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

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

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$$1. \quad \begin{cases} y = -mx^2 - m(x+1) \\ y = -m - x \end{cases} \Rightarrow -mx^2 - m(x+1) = -m - x$$

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

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

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

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$$\Rightarrow m^2 + 4m + 1 \geq 0 \quad \begin{matrix} m = 1 \\ m = -1 \end{matrix} \Rightarrow \begin{matrix} -1 & -\frac{1}{2} \\ + & - & + \end{matrix} \Rightarrow \left(-1, -\frac{1}{2}\right)$$

$$\Rightarrow \left\{ \frac{1}{2}, 1, 2 \right\}$$

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