

گروه یازدهم (مترجم)

۱۹،۷۵

زهرآ آینه

①

$$g = (a-1)x^2 + x + 3 = 0 \quad x = \frac{-b}{2a} = 2 \quad \frac{-1}{2a-2} = 2$$

②

معمولاً $x=2$

$$g = -\frac{1}{\varepsilon} x^2 + x + 3 = 0 \rightarrow \omega \rightarrow \frac{-1 \pm \sqrt{1 + 4\varepsilon x^2}}{2\varepsilon}$$

$$\varepsilon a - \varepsilon = -1 \rightarrow a = \frac{3}{\varepsilon}$$

$$2x - \frac{1}{\varepsilon} \leftarrow (4) \leftarrow 2x - \frac{1}{\varepsilon}$$

②

④

$$P(a) = mx^2 - 2x + m \quad (1) \quad m < 0$$

$$\Delta > 0 \quad 4 - 4xm + m^2 > 0$$

⑤

$$f(a) = \begin{vmatrix} x_1 & x_2 & x_3 \\ 1 & 1 & 1 \\ 1 & 1 & 1 \end{vmatrix} \rightarrow 0 \rightarrow A$$

$$4 - 4xm^2 > 0 \quad (3)$$

$$(3) \quad \varepsilon m^2 < 4 \rightarrow m < \frac{2}{\sqrt{\varepsilon}}$$

$$(1) \cap (3) \cap (5) \rightarrow -\frac{2}{\sqrt{\varepsilon}} < m < \frac{2}{\sqrt{\varepsilon}}$$

$$(4) \quad m > \frac{2}{\sqrt{\varepsilon}}$$

$$x = \frac{\sqrt{5}}{2}, \quad \frac{x+\sqrt{5}}{2}$$

$$S = \frac{x - \sqrt{5} + x + \sqrt{5}}{2} = x$$

⑥

$$P = \frac{(x - \sqrt{5})(x + \sqrt{5})}{4} = \frac{\varepsilon}{4}$$

$$g = x^2 - 2x + \frac{\varepsilon}{4} \rightarrow 0$$

$$4g = 4x^2 - 4x + \varepsilon$$

⑦

$$g = 2x^2 - 4x + m + 1 \quad \alpha < \beta$$

$$4x^2 + \beta^2 \geq 4 \quad m \geq 0$$

⑧

$$S = \frac{\Delta}{4} \geq 0 \rightarrow \alpha + \beta \geq 4 \quad \beta \geq 4 - \alpha$$

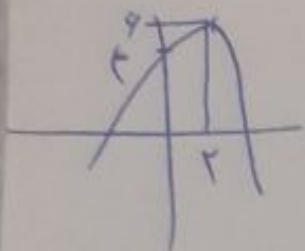
$$4x^2 + (4 - \alpha)^2 \geq 4$$

$$(\alpha \geq 1) \leftarrow (\alpha - 1)^2 \geq 1 \leftarrow x^2 - 2x + 1 \geq 0 \leftarrow (x-1)^2 \geq 0$$

$$\text{if } \alpha \geq 1 \rightarrow \beta \geq 4 - 1 = 3$$

$$4x^2 - 4x + m + 1 = 0 \quad P = \frac{c}{a} = \frac{m+1}{4} = \alpha \cdot \beta$$

$$(5) \quad 4 - 4 = 0 \leftarrow \varepsilon = 4 - 2 \leftarrow 2 = \frac{m+1}{4}$$



$$m_s = 2$$

$$y_s = 4$$

$$c = 2$$

$$\frac{-b}{2a} = 2$$

$$b = -4a$$

(9)

$$y = am^2 + bm + c$$

$$y = am^2 - 4am + c$$

$$4a - 16a + c = 4$$

$$\frac{14}{9}$$

$$-12a = 4 \rightarrow a = -\frac{1}{3}$$

(5)

$$y = \frac{1}{4}m^2 + 2m + 4$$

$$\rightarrow \frac{1}{a} + \frac{1}{b} \rightarrow \frac{a+b}{ab} = \frac{-1}{2}$$

$$m^2 - (4a + c)m + (4a^2 + 4a + c) = 0$$

(5)

(1)

$$\text{if } m = 2 \rightarrow 4 - 2(4a + c) + 4a^2 + 4a + c = 0 \rightarrow 4 - 8a - 1 + 4a^2 + 4a + c = 0$$

$$\text{if } a = 1 \rightarrow m^2 - 4m + 4 \rightarrow m = 2 \quad \text{if } a = \frac{1}{4} \rightarrow m^2 - 2m - 1 = 0$$

$$\text{if } a = -\frac{1}{4} \rightarrow m^2 - \frac{1}{4}m + \frac{1}{4} = 0 \quad \Delta = \frac{1}{16} - \frac{1}{4} = -\frac{3}{16}$$

$$m = \frac{\frac{1}{4} \pm \sqrt{\frac{1}{16} - \frac{3}{16}}}{2} = \frac{1 \pm \sqrt{1-3}}{4} = \frac{1 \pm \sqrt{-2}}{4}$$