

$$A = \begin{vmatrix} 1 \\ 9 \end{vmatrix}$$

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

$$\frac{-\Delta}{r} = 9 \rightarrow -b^2 + 4ac = 81$$

$$-r^2 + 4ac = 81$$

$$-a + c = 9$$

$$c = 9 + a$$

$$c = 9, 0$$

$$1 = 9a + r^2b + c$$

$$1 = 18a + 9 + c$$

$$0 = 18a + 1$$

$$0 = 1(9a + 1)$$

$$a = -\frac{1}{9}$$

$$b = 1$$

$$y = ax^2 + bx + c$$

$$y = -\frac{1}{9}x^2 - x + \frac{10}{9}$$

$$rx^2 + mx + m + 4 = 0$$

$$\frac{c}{a} > 0 \rightarrow \frac{m+4}{r} > 0 \rightarrow m > -4$$

$$\frac{-b}{a} > 0 \rightarrow \frac{-m}{r} > 0 \rightarrow m < 0$$

$$\Delta > 0 \rightarrow m^2 - 4m - 16 > 0 \rightarrow m = \frac{4 \pm \sqrt{16 + 64}}{2} = \frac{4 \pm 8}{2}$$

$$m \in (-4, -8)$$

$$rx^2 + (r-1)x + r-m = 0$$

$$\Delta > 0$$

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

$$ar = -bc \rightarrow 9 = (m-r)(r-1)$$

$$9 = rm - m - r + 1$$

$$0 = rm - m - r - 8$$

$$0 = m^2 - 8m - 16$$

$$= (m-4)^2 - 32 = 0$$

$$m = 4 \pm \sqrt{32}$$

$$x^2 - x - 8 = 0 \rightarrow \alpha^2 - \alpha - 8 = 0$$

$$x^2 - 5x + 4 = 0$$

$$\alpha + \beta = 1$$

$$\alpha\beta = -8$$

$$\alpha^2 + \beta^2 = (\alpha + \beta)^2 - 2\alpha\beta$$

$$= 1 + 16 = 17$$

$$x^2 - (\alpha^2 + \beta^2 + \frac{1}{\alpha} + \frac{1}{\beta})x + (\alpha^2 + \frac{1}{\beta})(\beta^2 + \frac{1}{\alpha}) = 0$$

$$x^2 - (17 + \frac{1}{-8})x + (\frac{17}{-8} + \frac{1}{-8}) = 0$$

$$x^2 - 17.125x - 0.25 = 0$$

$$(\sqrt{x^2} + \frac{1}{\sqrt{x^2}} + 1)(\sqrt{x^2} - 1) = \sqrt{x^2}$$

$$(\sqrt{x^2} + \frac{1}{\sqrt{x^2}} + 1)(\sqrt{x^2} - \frac{1}{\sqrt{x^2}}) = 1$$

$$x - \frac{1}{x} = 1 \rightarrow x^2 - x - 1 = 0 \rightarrow x = \frac{1 \pm \sqrt{5}}{2}$$

$$rx^2 - ax + 4 = 0$$

$$\alpha = r\beta$$

$$\frac{c}{a} = r\beta^2 \rightarrow r\beta^2 = \frac{4}{r} \Rightarrow \beta^2 = \frac{4}{r^2} \Rightarrow \beta = \pm \frac{2}{r}$$

$$\frac{-b}{a} = r\beta \rightarrow \frac{a}{r} = r\beta \rightarrow a = r^2\beta$$

$$\beta = \frac{2}{r} \rightarrow a = 4$$

$$\beta = -\frac{2}{r} \rightarrow a = -4$$

$$17$$

$P=0$ $x^2+ax+b=0$ $\Delta=b^2-4ac=b^2$ $\frac{b}{a}>0$

① $(x+r)^2 > 0$ $\rightarrow a > \frac{r}{r}$ $a > 0$ -V

② $\frac{b}{a} < 0 \rightarrow -r-r < 0 \rightarrow r+r < 0 \rightarrow a < -\frac{r}{r}$

$(x+r)^2 = 0 \rightarrow x+r=0 \rightarrow a = -\frac{r}{r}$

یک مقدار

$\frac{-b}{2a} = \frac{r}{-r} = -1$ x_s

$y_1 = x^2 + ax - r \rightarrow x^2 - rx - r = 1$ $x^2 - rx - r = 0 \rightarrow (x-r)(x+1) = 0$

$y_2 = -x^2 - rx + b$ $\rightarrow 1 = x^2 - rx + b$ $0 = -x^2 - rx + b - 1$

$x^2 - rx - r = -x^2 - rx + b - 1$ $(x+r)(x-1) = x^2 + rx + 1 - b$ $x^2 + rx - r = x^2 + rx + 1 - b$ $1 - b = -r$ $b = 1$

$\frac{-a}{r} = -1 \rightarrow a = r$ $ab = 1$

$x^2 - ax + b = 0 \rightarrow \alpha, \beta$ $\alpha\beta = \frac{b}{r}$ $\alpha + \beta = \frac{a}{r}$

$2ax^2 + ax - 4 = 0 \rightarrow \alpha = 0, \beta = 0$ $(\alpha - 0, 0)(\beta - 0, 0) = -r$

② $\alpha = 0, \beta = 0$ $\alpha + \beta = 1 = \frac{-a}{r}$ $\frac{ra}{r} = 1$ $a = 1$

$\alpha\beta = 0, 0 \times 0 = 0, 0 \times 0 = -r$ $\frac{b}{r} = 0(\alpha + \beta) = -r, r = 0$ $\frac{b}{r} = \frac{1}{r}(\frac{a}{r}) = -r, r = 0$ $\frac{rb-a}{r} = -r, r = 0$ $rb-a = -1r$

③ $\frac{a}{r} > 0 \rightarrow a = 1$ $rb = 1 = -1r$ $rb = -1r$ $b = -1$ $ab = -1$

$\left[\frac{ab}{r}\right] = \left[\frac{-1}{1}\right] = -1$

$x^2 + 4x + m = 0$ $x^2 + rx - rm = 0$ $x^2 + 4x + m = x^2 + rx - rm$ $x = -4m$ $x \neq 0$ $x = -m \rightarrow x = -1$

$m^2 - 4m + m = 0$ $m^2 - 3m = 0$ $m(m-3) = 0$ $m = 0$ $m = 3$

$x^2 + 4x + 1 = 0 \rightarrow \frac{(x+1)(x+1)}{-1}$ $|r - (-1)| = 1$

$x^2 + rx - 1 = 0 \rightarrow \frac{(x+0)(x-r)}{+r}$