

معادله $y = ax^2 + bx + c$ می باشد

$$\left. \begin{aligned} 9 &= a - b + c \\ \rightarrow 9 &= c - a \\ 1 &= 9a + 5b + c \\ 1 &= 15a + c \end{aligned} \right\} \begin{aligned} a &= -\frac{1}{5} \\ c &= \frac{14}{5} \end{aligned}$$

$$\text{ext} \left| \frac{-b}{2a} = -1 \right. \quad (1)$$

$$\frac{-\Delta}{2a} = 9$$

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

$$\left. \begin{aligned} a &= -\frac{1}{5} \\ b &= 2a \end{aligned} \right\} b = -\frac{2}{5} \quad y = -\frac{1}{5}x^2 - \frac{2}{5}x + \frac{14}{5}$$

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

$$\Delta > 0 \rightarrow m^2 - 4(m+4) > 0$$

$$\rightarrow (m-12)(m+4) > 0 \rightarrow \begin{array}{c} + \quad - \\ 0 \quad - \quad 0 \end{array} \begin{array}{c} 12 \\ -4 \end{array} \rightarrow \begin{aligned} m &< -4 \\ m &> 12 \end{aligned}$$

$$S > 0 \rightarrow \frac{-b}{a} > 0 \rightarrow \frac{-m}{2} > 0 \rightarrow \begin{array}{c} + \quad - \\ 0 \quad - \end{array} \rightarrow m < 0$$

$$P > 0 \rightarrow \frac{c}{a}$$

$$\frac{m+4}{2} > 0 \rightarrow \begin{array}{c} -4 \\ - \quad + \end{array} \rightarrow m > -4$$

$$\boxed{-4 < m < -1} \quad m = (-4, -1)$$

$$2x^2 + (2m-1)x + 5-m = 0$$

$$\alpha\beta = \frac{1}{\alpha\beta} \rightarrow \frac{-b}{a} = \frac{a}{c} \rightarrow a^2 = -bc$$

$$9 = 2m^2 - 2m + 5 \rightarrow 2m^2 - 2m - 4 = 0 \rightarrow m^2 - m - 2 = 0 \rightarrow (m-2)(m+1) = 0$$

$$\Delta < 0 \rightarrow \begin{array}{c} -1 \\ - \quad + \end{array} \rightarrow \begin{array}{c} 2 \\ -1 \end{array} \rightarrow m = \left(\frac{2}{-1} \right)$$

$$\left. \begin{aligned} m &= -1 \\ m &= \frac{2}{-1} \end{aligned} \right\} \boxed{m = -\frac{2}{1}}$$

$$x = x_1 - 1 \rightarrow x_1^2 - x_1 - 1 = 0$$

$$S = x_1 + x_2 = \frac{-b}{a} = 1$$

$$P = \frac{c}{a} = x_1 x_2 = -1$$

$$x_1^2 + \frac{1}{x_1} + x_1^2 + \frac{1}{x_2} = x_1^2 + x_1^2 + \frac{x_1 + x_2}{x_1 x_2} = S^2 - 2SP + \frac{S}{P} = 1 + 1 - \frac{1}{-1} = \frac{\Delta 1}{-1} = S'$$

$$\left(x_1^2 + \frac{1}{x_1} \right) \left(x_2^2 + \frac{1}{x_2} \right) = (x_1 x_2)^2 + x_1^2 + x_2^2 + \frac{1}{x_1 x_2} = (-1)^2 + 1 + 1 - \frac{1}{-1} = -\frac{5 \cdot 1}{-1} = P'$$

$$x^2 - \frac{\Delta 1}{-1}x - \frac{5 \cdot 1}{-1} = 0 \rightarrow x^2 - \Delta 1x - 5 \cdot 1 = 0$$

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

$$= \sqrt{x^2} - \frac{1}{\sqrt{x^2}} = 1 \quad \sqrt{x^2} - \sqrt{x^2} - \frac{1}{\sqrt{x^2}} = 0 \quad \times \sqrt{x^2}$$

$$x^2 - x - 1 = 0 \rightarrow S = \frac{-b}{a} = 1$$

$$r^2 - ar + f = 0 \rightarrow a = r\beta$$

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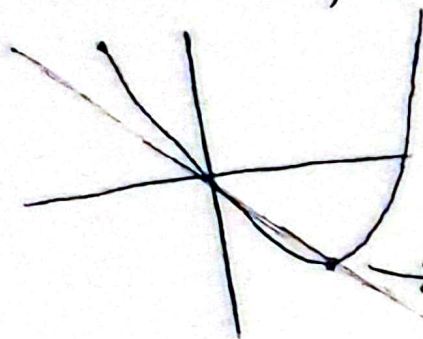
$$a + \beta = f/\beta = \frac{a}{r}$$

$$a\beta = r\beta^2 = \frac{f}{r} \Rightarrow \beta^2 = \frac{f}{r} \rightarrow \beta = \pm \frac{r}{r} \rightarrow f/\beta = \pm \frac{\Delta}{r} = \frac{a}{r} \rightarrow a = \pm 1$$

$$\Lambda - (-\Lambda) = 14$$

$$y = ar^2 + (r+ra)r$$

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$$S > 0$$

$$P \geq 0$$

$$\Delta > 0$$

$$\frac{-b}{2a} > \frac{-(r+ra)}{2a} > 0$$

$$\frac{-\frac{r}{r}}{-\frac{r}{r} + \frac{r}{r}}$$

$$\text{ext } \frac{-b}{2a} > 0$$

$$\rightarrow -\frac{r}{r} < a < 0 \rightarrow \frac{r}{r} \text{ min}$$

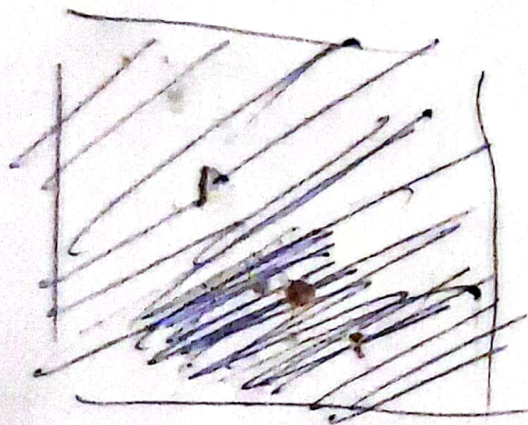
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$$\left. \begin{aligned} y &= r^2 + ar - r \\ y &= -r^2 - r + b \end{aligned} \right\} \frac{-b}{2a} = -1 \quad \frac{b}{-1} = -\left(\frac{-r}{-1} + r\right) \rightarrow \frac{b}{-1} = 0 \rightarrow b = 0$$

$$1 = -r^2 - r \rightarrow -r^2 - r - 1 = 0 \rightarrow -(r+1)^2 \rightarrow r = -1$$

$$1 = r^2 + ar - r \rightarrow 1 = 1 - a - r \rightarrow a = -r \quad (ab = 0 \times -r = 0)$$



$$R = t + \frac{1}{r} \rightarrow rR - aR + b = 0$$

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$$\rightarrow r \left(t + \frac{1}{r} \right) - a \left(t + \frac{1}{r} \right) + \frac{b}{r} = 0$$

$$\text{بسطاً، } ra + a + \frac{b}{r} = 0$$

$$t = r \rightarrow ra = r \rightarrow a = 1 \quad b = b \Rightarrow b = 4$$

$$\left[\frac{-4 \times 1}{1} \right] = [4] = (-2)$$

$$\left. \begin{aligned} x^2 + 4x + m &= 0 \\ x^2 + 5x - 7m &= 0 \end{aligned} \right\} \begin{aligned} &\rightarrow x = -m \\ &\rightarrow m = 0 \end{aligned}$$

$$m^2 - 9m + m = 0 \rightarrow \begin{aligned} &m = 0 \\ &m = 0 \end{aligned} *$$

$$x - (-1) = 1$$

$$x^2 + 4x + \Delta = 0$$

$$x^2 + 5x - 1\Delta = 0$$

$$x = -1$$

$$x = -\Delta$$

$$x = 1$$

$$x = \Delta$$

$$x - (-1) = 1$$

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