

$$3x^2 - ax + 4 = 0$$

(1)

$$\omega_{\text{مجموع}} \Rightarrow r_1 + r_2$$

$$r_1 + r_2 = \frac{c}{a} \Rightarrow 3r = \frac{4}{3} \quad r^2 = \frac{4}{9} \Rightarrow r = \pm \frac{2}{3}$$

$$r + 3r = \frac{-b}{a} = 4r = \frac{a}{3} \quad a = 12r$$

$$\text{if } \Rightarrow r = \frac{2}{3} \Rightarrow a = 8$$

$$\text{if } \Rightarrow r = -\frac{2}{3} \Rightarrow a = -8$$

$$|a_1 - a_2| = |8 - (-8)| = 16$$

(5)

$$34x^2 - (m+14)x + 1 = 0$$

(2)

$$\sqrt{\frac{1}{x_1}} + \sqrt{\frac{1}{x_2}} = \omega \Rightarrow \left(\frac{1}{\sqrt{x_1}} + \frac{1}{\sqrt{x_2}}\right)^2 = (\omega)^2$$

$$\frac{1}{x_1} + \frac{1}{x_2} + \frac{2}{\sqrt{x_1 x_2}} = 4\omega$$

(5)

$$x_1 + x_2 = \frac{-b}{a} \Rightarrow \frac{m+14}{34}$$

$$x_1 x_2 = \frac{c}{a} \Rightarrow \frac{1}{34} \Rightarrow \sqrt{x_1 x_2} = \frac{1}{\sqrt{34}}$$

$$\frac{1}{x_1} + \frac{1}{x_2} = \frac{x_1 + x_2}{x_1 x_2} = \frac{\frac{m+14}{34}}{\frac{1}{34}} = m+14$$

$$\frac{2}{\frac{1}{\sqrt{34}}} = 12 \Rightarrow m+14 + 12 = 4\omega$$

$$m + 26 = 4\omega$$

$$m = -1$$

$$34x^2 - 13x + 1 = 0$$

$$P = \frac{c}{a} = -\frac{1}{34}$$

$$x^2 - 5x + P = 0 \Rightarrow x^2 - x - 4 = 0 \Rightarrow (x-4)(x+1) = 0$$

(3)

$$\alpha = 4 \quad \beta = -1$$

$$x=4 \text{ : } \frac{1}{x} \Rightarrow \frac{1}{4} \quad \frac{1}{x} + \frac{1}{x} = \frac{2}{x} \Rightarrow \frac{2}{4} = \frac{1}{2} \Rightarrow k = -\frac{1}{2}$$

$$k = -\frac{1}{2}$$

$$k = -\frac{1}{2}$$

(5)

$$x=-1 \text{ : } \frac{1}{x} \Rightarrow -1 \quad \frac{1}{x} + \frac{1}{x} = \frac{2}{x} \Rightarrow \frac{2}{-1} = -2 \Rightarrow k = -\frac{1}{2}$$

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

(1)

$$\alpha^2 + \beta^2 = (\alpha + \beta)^2 - 2\alpha\beta = 14 - 12\alpha$$

$$r(14 - 12\alpha) + \alpha^2 = 14\alpha + 12\sqrt{r} \Rightarrow \alpha < \beta < 0$$

(2)

$$\alpha = -3 - 2\sqrt{r} \quad \beta = -3 + 2\sqrt{r}$$

$$\alpha^2 = (-3 - 2\sqrt{r})^2 = 17 + 12\sqrt{r}$$

$$17r - 12\alpha + 17 + 12\sqrt{r} = 14\alpha + 12\sqrt{r}$$

$$\alpha = 1$$

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

(3)

$$+ = \frac{1 \pm \sqrt{4}}{2} \Rightarrow \text{فقط مقادير صحيحة}$$

$$\alpha = \pm \sqrt{4}$$

(4)

$$S = \sqrt{4} + (-\sqrt{4}) = 0$$

$$r\alpha^2 - 3\sqrt{r} + r\beta^2 = r\alpha^2$$

$$r + r = \frac{(1 + \sqrt{4})^2}{r} = \frac{4 + 4\sqrt{4}}{r}$$



$$\text{① مجموع مربعات } r_1 + \frac{1}{r} = r_2 + \frac{1}{r}$$

(5)

$$\text{② مجموع مربعات } r_1 + r_2 = -\frac{1}{r}$$

$$\text{③ مجموع مربعات } r_1 + r_2 + 1 = \frac{1}{r} \Rightarrow \frac{a}{r} = \frac{1}{r} \Rightarrow a = 1$$

(6)

$$\text{④ ضرب مربعات } r_1 r_2 = \frac{4}{r^2} = \frac{r}{a}$$

$$\text{⑤ ضرب مربعات } (r_1 + \frac{1}{r})(r_2 + \frac{1}{r}) = r_1 r_2 + \frac{1}{r}(r_1 + r_2) + \frac{1}{r^2} \Rightarrow -\frac{w}{a} - \frac{1}{r} + \frac{1}{r^2} = -\frac{r}{a^2}$$

$$\text{⑥ ضرب مربعات } \frac{b}{r} \Rightarrow \frac{b}{r} = -\frac{r}{a} \Rightarrow b \Rightarrow -r$$

$$\left[-\frac{w}{r} \right] = (-r)$$

$$r_0(r\beta^2 + \alpha^2 - \beta) = 17$$

(7)

$$a\alpha^2 - a\alpha - b = 0 \Rightarrow \alpha + \beta = 1$$

$$\alpha^2 + \beta^2 = 1 - 2\alpha\beta$$

$$r\beta^2 + \alpha^2 = 1 - 2\alpha\beta + \beta^2 \Rightarrow r_0(1 - 2\alpha\beta + \beta^2 - \beta) = 17$$

$$\alpha = r \quad \beta = -1$$

(8)

$$\alpha = 1 - \beta$$

$$r\beta^2 + r(1 - \beta)^2 - r\beta = 17 \Rightarrow r\beta(\beta - 1) = -1 \rightarrow \alpha\beta = \frac{1}{r} = -\frac{b}{a}$$

$$\rightarrow a = -r \cdot b$$

$$a\alpha^2 - a\alpha - b = 0 \rightarrow -r \cdot b\alpha^2 + r \cdot b\alpha - b = 0 \quad |\alpha - \beta| = \frac{\sqrt{\Delta}}{|a|} = \frac{r}{r_0}$$

Date:

Sub:

مسئله ۱

$$\textcircled{1} \text{ فرض کنیم } n \text{ و } n+1 \text{ زوج باشند} \Rightarrow n, n+1$$

(1)

$$\text{فرض کنیم } n \text{ زوج و } n+1 \text{ فرد} \Rightarrow n, n+1 \Rightarrow a = n+1$$

(1)

$$n(n+1) = n^2 + n = a \quad n^2 + n = n^2 + 1 \quad n^2 = 1 \quad n = \pm 1$$

$$n = +1 \checkmark$$

$$\textcircled{2} \text{ فرض کنیم } n \text{ و } n+1 \text{ فرد باشند} \Rightarrow n, n+1$$

$$\text{فرض کنیم } n \text{ فرد و } n+1 \text{ زوج} \Rightarrow n, n+1 \Rightarrow a = n+1 \Rightarrow \text{جواب}$$

$$n^2 + n = n^2 + 1 \Rightarrow n = 1$$

$$a_1 = 1, a_2 = a \rightarrow \text{در اینجا } a = 1$$

$$P = 1$$

$$a^r = (r+1)a + b = 0 \rightarrow a^r - 1 \cdot a + b = 0$$

$$S = r a + r = 1 \rightarrow a = r$$

$$r = 1$$

$$r - r = 1$$

$$\text{مثال } n = 1 \Rightarrow a = 1$$

$$\textcircled{1} \text{ فرض کنیم } n \text{ و } n+1 \text{ زوج باشند} \Rightarrow n, n+1$$

$$n - n = 1$$

(9)

$$a^r + b^r = S - rP \rightarrow rM + rN \rightarrow rM + rN \rightarrow rM + rN \rightarrow rM + rN$$

$$\text{min} = 1$$

(10)

(9)

$$a_5 = -1 \quad y = a a^r + r a + a + 1$$

$$a^r + b^r = S - rP \rightarrow a = -\frac{r}{n}$$

$$a + 1 = \frac{1}{n} \leftarrow \text{در اینجا } a = -\frac{r}{n}$$