

۲۰

$$y = (a-1)2^x + a + 1$$

۱

$$\text{مقطع} = -\frac{b}{ka} \rightarrow \frac{-1}{ka-1} = 2$$

۲

$$-1 = ka - k$$

$$\Delta = 1 - k(3)(-\frac{1}{k}) = k$$

$$k = ka \rightarrow a = \frac{k}{k}$$

$$y = (\frac{k}{k} - \frac{k}{k})2^x + a + 1 \rightarrow y = -\frac{1}{k}2^x + a + 1 = 0$$

$$a = \frac{-1 \pm \sqrt{k}}{-\frac{1}{k}} \rightarrow \begin{cases} \frac{-1+k}{-\frac{1}{k}} = (-2) \\ \frac{-1-k}{-\frac{1}{k}} = (+9) \checkmark \end{cases}$$

$$f(x) = mx^2 - \omega x + m$$

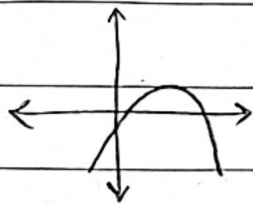
۳

$$\begin{array}{c|c|c} x & x_1 & x_2 \\ \hline f(x) & - & + \end{array}$$

$$a < 0 \rightarrow m < 0 \quad (I)$$

۲

$$\Delta > 0 \rightarrow 4\omega - k(m)(m) > 0$$



$$4\omega > km^2 \rightarrow \frac{4\omega}{k} > m^2$$

$$(II) \rightarrow -\frac{\omega}{k} < m < \frac{\omega}{k}$$

$$(I) \cap (II) \rightarrow -\frac{\omega}{k} < m < 0 \quad m \in (-\frac{\omega}{k}, 0)$$

$$\frac{r-\sqrt{\omega}}{r}, \frac{r+\sqrt{\omega}}{r}$$

$$S = \frac{r-\sqrt{\omega}}{r} + \frac{r+\sqrt{\omega}}{r} = \frac{4}{r} = (1)$$

$$p = \frac{(r-\sqrt{\omega})(r+\sqrt{\omega})}{9} = \frac{9-\omega}{9} = (\frac{k}{9})$$

$$y = x^2 - 5x + p$$

۳

$$y = x^2 - 4x + \frac{k}{9}$$

۲

$$y = 9x^2 - 12x + k \quad \times 9$$

$$ka^2 - 12a + m + 1 = 0$$

$$ka^2 + \beta^2 = 12$$

$$a < \beta$$

۴

$$a + \beta = k \rightarrow \beta = k - a$$

$$ka^2 + (k-a)^2 = 12$$

۵

$$ka^2 + 14 + a^2 - 12a = 12$$

$$ka^2 - 12a + k = 0$$

$$a^2 - 12a + 14 = 0$$

$$(a-4)^2 = -$$

$$\frac{m+1}{r} = 2 \rightarrow m = k$$

$$\beta = k$$

$$\alpha = 1$$

$$S(r, q) \quad (a, d)$$

(2)

$$y = ar^x + b + c \quad c = d$$

$$\begin{matrix} (r, q) \\ \downarrow \end{matrix} \quad \frac{-b}{ra} = r \rightarrow ra = -b$$

(3)

$$ra + rb + d = q \rightarrow -b + rb = q \rightarrow \boxed{b = r} \quad \boxed{a = -1}$$

$$\begin{array}{c|c|c} -1 & a & \\ \hline - & + & - \end{array}$$

$$-ar^x + rb + d > 0$$

$$a + c = b$$

$$0/b \rightarrow (-1, d)$$

$$(-1), (d) \rightarrow \log_{\frac{1}{r}}$$

$$ar^x - vx + qb = 0$$

$$\frac{1}{a} + \frac{1}{b} = ?$$

$$b > 0$$

(4)

$$qb = \frac{qb}{a}, \quad ar^x = q \rightarrow \boxed{a = \pm r}$$

$$a = r \rightarrow ar^x - vx + qb = 0 \rightarrow S = \frac{a}{r} + \beta = \frac{v}{r} \rightarrow \beta = \frac{-r}{r} \quad \text{GWS}$$

$$a = -r \rightarrow -r ar^x - vx + qb = 0 \rightarrow S = \frac{a}{-r} + \beta = \frac{-v}{r} \rightarrow \beta = \frac{r}{r} \quad \checkmark$$

(5)

$$\frac{a+\beta}{a\beta} = \frac{-r + \frac{v}{r}}{\frac{v}{r}x - r} = \frac{-\frac{v}{r}}{-r} = \frac{+v}{r}$$

$$ar^x + mx - rm = 0$$

$$ar^x - mb = \Lambda$$

(6)

$$\begin{matrix} \downarrow \beta \\ m\beta = rm - \beta r \end{matrix}$$

$$ar^x - r\beta + \beta r = \Lambda$$

$$\underbrace{ar^x + \beta r}_{S^r - rp} - rm = \Lambda \rightarrow m^r + rm - \Lambda = 0$$

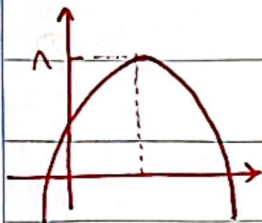
$$S^r - rp = m^r + rm$$

$$(m+r)(m-r) = 0$$

$$\boxed{m = -r, r}$$

$$m = r \rightarrow ar^x + rx - r = 0 \rightarrow \Delta > 0 \quad \frac{-b}{a} = (-r)$$

$$m = -r \rightarrow ar^x - rx + \Lambda \rightarrow \Delta < 0 \quad x$$



$$f(x) = mx^2 + rx + \frac{m}{r} + v$$

$$\frac{-\Delta}{4a} = \frac{rac - b^2}{4a} = \frac{rm^2 + r^2m - 14}{4m} = 1$$

$$rm^2 + r^2m - 14 = 4m \rightarrow rm^2 - km - 14 = 0$$

$$m^2 - km - 14 = 0$$

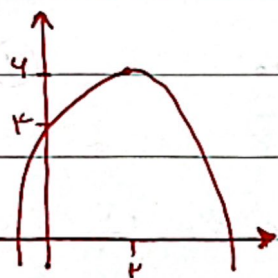
$$m = k \rightarrow y = k^2x^2 + kx + 4 \rightarrow \Delta < 0$$

$$(m-1)(m+k) = 0$$

$$m = -k \rightarrow y = -k^2x^2 + kx + 4 \rightarrow \Delta > 0$$

$$m = k, -k$$

$$2k^2 + kx - 14 = 0 \quad (x+4)(x-1) = 0 \rightarrow x = -4, x = 1$$



$$\frac{1}{\alpha} + \frac{1}{\beta} = ?$$

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

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

$$(1, 4) \rightarrow ka + pb + r = 4$$

$$ka + b = 1 \rightarrow -ka = 1$$

$$y = -\frac{1}{r}x^2 + km + k$$

$$\frac{\alpha + \beta}{\alpha\beta} = \frac{-\frac{b}{a}}{\frac{c}{a}} = \frac{k}{-1} = -\frac{1}{r}$$

$$\boxed{a = -\frac{1}{r}}$$

$$x^2 - (ka + k)x + (ka^2 + 4a + k) = 0$$

$$x = r \rightarrow k - 1a - 1 + ka^2 + 4a + k = 0$$

$$ka^2 - ka - 1 = 0$$

$$\hookrightarrow a + b + c = 0 \rightarrow a = 1, a = -\frac{1}{r}$$

$$a = 1 \rightarrow x^2 - 1x + 1k = 0 \quad (x-4)(x-1) = 0 \quad x = 4, 1$$

$$\Delta > 0$$

$$a = -\frac{1}{r} \rightarrow x^2 - \frac{1}{r}x + \frac{k}{r} = 0 \quad \Delta = \frac{1}{r^2} - \frac{4k}{r} = \frac{1}{r^2}$$

$$x = \frac{\frac{1}{r} \pm \frac{1}{r}}{2} \rightarrow x_1 = \frac{1}{r}, x_2 = \frac{1}{r}$$

Scanned with