

$$\alpha\beta = 2, \alpha + \beta = -\omega$$

$$\alpha = \frac{2}{\beta}$$

$$\Rightarrow \frac{\beta^2 + \frac{2}{\beta}}{\alpha\beta^2} = \frac{\beta^2 + \frac{2}{\beta} \times \epsilon}{\alpha\beta^2}$$

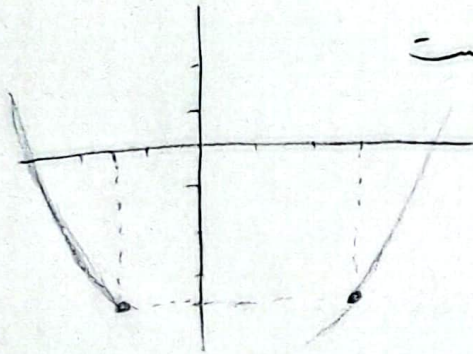
برایابی

$$\begin{aligned} -2 - \omega\beta &= \beta^2 \\ 2\omega + \omega^2\beta &= \beta^2 \end{aligned}$$

$$\frac{\epsilon^2\sqrt{\beta} + 10}{-(2\beta + 10)} = \boxed{-19} \quad (1)$$

$$\frac{\epsilon^2\sqrt{\beta} + 10}{-2\omega\beta^2 - 10} = \frac{-218\sqrt{\beta} - 9\omega}{\beta(-2\omega\beta - 10)} \Rightarrow \frac{\epsilon^2\sqrt{\beta} + 10}{-\beta^2} = \frac{-218\sqrt{\beta} - 9\omega}{\beta(-2\omega\beta - 10)}$$

$$\beta^2 = 10 + 22\beta$$



(2) چون عرض دو نقطه برابر است طول رأس سمعی این دو نقطه است

$$\frac{-1, \omega + 3}{2} = \frac{2}{\epsilon} = \text{طول رأس}$$

$$\boxed{1, \omega} = 2 \times \text{طول رأس سمعی} = 2 \times 1 = 2$$

$$\sqrt{\epsilon K^2 - 20} = \frac{\epsilon}{2} K \Rightarrow \frac{16}{9} K^2 = \epsilon K^2 - 20 \Rightarrow 16 K^2 = 26 K^2 - 180$$

$$180 = 10 K^2 \Rightarrow K^2 = 18 \Rightarrow \frac{K^2}{2} = \boxed{9}$$

$$\alpha + \beta = 8 \Leftarrow \frac{\alpha + \beta}{2} = 4 \Leftarrow \epsilon = \frac{\omega + 2}{2} = \text{طول رأس سمعی} \quad (3)$$

$$\beta^2 + \alpha^2 = (\alpha + \beta)^2 - 2\alpha\beta \Rightarrow 8^2 - 2\alpha\beta = \omega \Rightarrow 64 - 2\alpha\beta = \omega \Rightarrow \alpha\beta = \frac{64 - \omega}{2}$$

$$a(x^2 - 11x + \frac{64 - \omega}{2}) = y \xrightarrow{x=2} a(4 - 22 + \frac{64 - \omega}{2}) = y = \frac{29a}{2} \Rightarrow a = \frac{2y}{29}$$

$$oy = a\alpha\beta = \frac{2y}{29} \times \frac{64 - \omega}{2} = \boxed{\frac{64y - \omega y}{29}}$$

$$-x^2 + \omega x + m = 0 \Rightarrow x^2 - \omega x - m = 0 \quad (4)$$

$$-m = x_1, x_2 \quad \omega = x_1 + x_2 \Rightarrow \frac{\omega + \sqrt{\epsilon m + 20}}{2} < \frac{7}{2} \Rightarrow \omega + \sqrt{\epsilon m + 20} < 7$$

$$\sqrt{\epsilon m + 20} < 7 \Rightarrow \epsilon m + 20 < 49 \Rightarrow \epsilon m < 29 \Rightarrow m < -3$$

$$\epsilon m + 20 \geq 0 \quad m \geq \frac{20}{\epsilon} \quad m \geq -4$$

$$\{-4, -3, -2, -1\} = m \text{ مقادیر}$$

$$m > 0 \quad \frac{2m^2 - \varepsilon m - 1 \varepsilon \varepsilon}{\varepsilon m} = 2 \Rightarrow \Delta m = 1 \varepsilon \varepsilon - \varepsilon m - 10m^2 \quad (4)$$

$$1 \varepsilon \varepsilon - 12m - 20m^2 = 0 \Rightarrow \omega m^2 - 2m - 5\varepsilon = 0 \quad \Delta = \sqrt{20 + 9} = \sqrt{29}$$

$$m = \frac{2 \pm \sqrt{29}}{20} = \frac{12}{20} \Rightarrow m = 2 \quad \frac{-b}{2a} = 2 = \frac{12}{6} = \boxed{2}$$

$$\alpha \beta = a^2 - 2(a+1) = \alpha + \beta \quad 2a - 1 = \alpha \beta = a^2$$

$$2a - 1 = a^2 \Rightarrow a^2 - 2a + 1 = 0 \quad (a-1)^2 = 0 \Rightarrow a = 1$$

$$21^2 + 2(a+1)21 + 2a - 1 = 0 \Rightarrow 21^2 + \varepsilon 21 + 1 = 0 \quad \alpha \beta = 1 \quad \alpha + \beta = -\varepsilon$$

$$\boxed{\alpha = -2 + \sqrt{5} \quad \beta = -2 - \sqrt{5} \quad a = 1}$$

$$\left. \begin{aligned} P = -\omega = 21, 21, 21, 21, 21 \\ S = 21_1 + 21_2 + 21_3 + 21_4 + 21_5 = 0 \end{aligned} \right\} \Rightarrow 2P^2 - 5SP + 2S = 2 \times 2\omega = \boxed{20} \quad (1)$$

$$-\frac{b}{2a} = \frac{2}{5} = \frac{2}{5} \Rightarrow K = a, b = -\varepsilon \Rightarrow -\frac{\varepsilon}{2K} = \frac{2}{K} \quad (9)$$

$$K\left(\frac{2}{K}\right)^2 - \varepsilon\left(\frac{2}{K}\right) - 4 = 0 \Rightarrow \frac{4}{K} - \frac{2\varepsilon}{K} - 4 = 0$$

$$-\varepsilon\left(\frac{2}{K}\right) - \varepsilon = -\frac{2\varepsilon}{K} - 4 \Rightarrow -\frac{2\varepsilon}{K} - \varepsilon = -\frac{2\varepsilon}{K} - 4 \Rightarrow \frac{2\varepsilon}{K} = 2 \Rightarrow K = 2$$

$$\text{عرض} = -2 - 4 = \boxed{-6}$$

(10) اگر دو معادله با هم برابر قرار دهیم و بنا براین صفر باشد، پس ای نداشته باشد

$$-m - 21 = m21^2 + m21 + 1 \Rightarrow -m21^2 + m21 + 21 + 1 + m = 0$$

$$\Rightarrow m21^2 - 21(m+1) - m + 1 = 0 \Rightarrow m^2 + 2m + 1 + \varepsilon m + 1 = \Delta$$

$$\Rightarrow \Delta = m^2 + \varepsilon m + 2 = (m+1)(m+1) \Rightarrow (m+1)(m+1) < 0$$

$$m = -\frac{1}{\omega} \quad m = -1 \Rightarrow m > -1$$

$$\boxed{0} = m \text{ اعداد صحیح}$$