

درسائیوانی

تالیف ۲۲

دھم رضمر c

سؤال ۱

$$\alpha + \beta = \omega \rightarrow \alpha = \omega - \beta$$

$$f\alpha = 10 - f\beta$$

$$\rightarrow f\alpha + \beta^{\omega} = \beta^{\omega} - f\beta + 10$$

$$\beta^{\omega} - \omega\beta + 10 = 0 \rightarrow \beta^{\omega} = \omega\beta - 10$$

$$\rightarrow \beta^{\omega} = \beta^{\omega} \times \beta^{\omega} \times \beta \rightarrow (\omega\beta - 10)^{\omega} \times \beta = (10\beta^{\omega} + 4 - 10\beta)\beta$$

$$= \beta(10(\omega\beta - 10) - 10\beta + 4) = \beta(10\omega\beta - 100 - 10\beta + 4) = 10\omega\beta^{\omega} - 44\beta$$

$$= 10\omega(\omega\beta - 10) - 44\beta = 10\omega^2\beta - 44\beta - 100 = 47\omega\beta - 100$$

$$\text{صورت} \rightarrow f\alpha + \beta^{\omega} = 10 - 4\beta + 47\omega\beta - 100 = 47\omega\beta - 190$$

$$\text{مخرج} \rightarrow \omega\beta^{\omega} = \omega(\omega\beta - 10) = 10\omega\beta - 10$$

$$\Rightarrow \frac{47\omega\beta - 190}{10\omega\beta - 10} = \textcircled{19}$$

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

سؤال ۱۲

$$\begin{aligned} -4 &= 9a + 3b + c \\ -4 &= 1,25a - 1,5b + c \end{aligned} \quad \left\{ \begin{aligned} 9a + 3b + c &= 1,25a - 1,5b + c \\ 4,75a &= -4,5b \\ b &= -1,5a \end{aligned} \right.$$

$$\alpha + \beta = \frac{-b}{a} = \frac{1,5a}{a} = \boxed{1,5}$$

سؤال ۱۳

$$\text{اضلاع مثلث} = \frac{\sqrt{\Delta}}{|a|} = \frac{\sqrt{4k^2 - 4}}{1} = \frac{F}{\mu} k$$

$$\text{سؤال ۱۴} \rightarrow 4k^2 - 4 = \frac{14}{9} k^2 \rightarrow \frac{40}{9} k^2 = 4$$

$$\rightarrow k^2 = 9 \Rightarrow \left[\frac{9}{4} \right] = \boxed{4}$$

$$x_5 = \frac{-\omega + \mu}{2} = -1 \quad \text{سؤال ۱۵}$$

$$\begin{aligned} \rightarrow y &= a(x+1)^2 + 1 = ax^2 + 2xa + a + 1 \\ \Rightarrow \alpha &= \frac{-2a}{a} = -2 \quad \beta = \frac{a+1}{a} \end{aligned}$$

$$\alpha' + \beta' = \omega = 3 - 2\beta$$

$$\begin{aligned} \omega &= 4 - \frac{2a+2}{a} \rightarrow 1 = \frac{-2a-2}{a} \rightarrow a = -2a-2 \\ 3a &= -2 \\ a &= -\frac{2}{3} \end{aligned}$$

$$\Rightarrow y = -\frac{2}{3}x^2 - \frac{4}{3}x + \frac{1}{3}$$

$$\rightarrow \text{عرض از مبدأ} = \boxed{\frac{1}{\mu}}$$

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سؤال ١٥

$$x = \frac{-\omega \pm \sqrt{4\omega + 4m}}{-2} < \frac{9}{4}$$

$$\omega \mp \sqrt{4\omega + 4m} < 9 \rightarrow \mp \sqrt{4\omega + 4m} < 4 \rightarrow 4\omega + 4m < 16$$

$$4m < 4$$

$$m < \frac{1}{4}$$

$$\Delta > 0 \rightarrow 4\omega + 4m > 0$$

$$4m > -4\omega \rightarrow m > -\frac{4\omega}{4}$$

$$\Rightarrow -\frac{9}{4} > m > -\frac{4\omega}{4} \rightarrow -\frac{9}{4}, -4, -\omega, -4 = \text{مقدار}$$

سؤال ١٦

$$\Delta > 0 \rightarrow m > 0$$

$$y_3 = \frac{-\Delta}{4a} = -\frac{(144 - 4(\omega m - 1)(m))}{4m} = \frac{\omega m^2 - m - 144}{m} = 4$$

$$\Rightarrow \omega m^2 - 4m - 144 = 0$$

$$m = \frac{4 \pm \sqrt{16 + 4\omega \cdot 144}}{2\omega} \rightarrow -4, 4 \text{ و } 12$$

$$m = 12 \rightarrow x_3 = \frac{-b}{4a} = \frac{144}{4(12)} = 3$$

$$\alpha + \beta = -2a - 2$$

سؤال (٧)

$$\alpha\beta = 2a - 1$$

$$\rightarrow \frac{a}{\alpha} = \frac{\beta}{a}$$

$$a^2 = \alpha\beta$$

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

$$(a-1)^2 = 0 \rightarrow a = 1$$

$$x^2 = t \rightarrow t^2 - vt - \omega = 0$$

سؤال (٨)

$$t = \frac{v + \sqrt{v^2 + 4\omega}}{2} = \frac{v + \sqrt{49}}{2} = x^2$$

$$\rightarrow x = \pm \sqrt{\frac{v + \sqrt{49}}{2}} \rightarrow p = -\frac{v + \sqrt{49}}{2}$$

$$\rightarrow p^2 = px + \frac{(v + \sqrt{49})^2}{4} = \omega + v\sqrt{49}$$

$$x_3 = \frac{k}{pk} = \frac{1}{k} \xrightarrow{k=1} x_3 = \frac{1}{1} = 1$$

سؤال (٩)

$$\frac{-1}{k} - \varepsilon = \frac{k}{k} - \frac{1}{k} - 4 \rightarrow 1 = \frac{k}{k} \rightarrow k = 1$$

$$y = 2x^2 - \varepsilon x - 4 \xrightarrow{x_3=1} 2 - \varepsilon - 4 = -1$$

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١٩ ذى الحجه ١٤٤٣ | تير

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$$-m-x = -mx^2 + mx + 1$$

سؤال ١٠

$$mx^2 + (-m-1)x - m - 1 = 0 \rightarrow \Delta = (-m-1)^2 - 4(-m-1)(m) < 0$$

$$m^2 + 1 + 4m + 4m = 0 \rightarrow m^2 + 4m + 1 < 0$$

$$\rightarrow m^2 + \frac{4}{10}m < \frac{-1}{10} \rightarrow m^2 + \frac{4m}{100} + \frac{16}{10000} < \frac{-10}{10000} + \frac{16}{10000}$$

$$\rightarrow (m + \frac{4}{10})^2 < \frac{16}{10000} \rightarrow \frac{-4}{10} < m + \frac{4}{10} < \frac{4}{10}$$

$$\rightarrow -1 < m < \frac{-2}{10} \rightarrow \text{تقاطع عدد صحیح نیست}$$