

با استفاده از آزمون کوشی-اورسکول

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

سوال ۱-

$$\Delta \leq (m+1)^2 - 4m(m+1) \leq 0 \rightarrow (m+1)(\Delta m e) \leq 0 \rightarrow \frac{1}{\Delta} \sqrt{m} \leq 1 \xrightarrow{2} \frac{1}{\Delta} \sqrt{m} \leq 1$$

نتیجه ۳

سوال ۲- نتیجه ۳

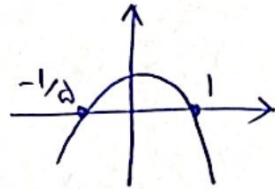
$$f\left(\frac{1}{2}\right) = -3 \rightarrow g^{-1}(a) \leq \frac{1}{2} \rightarrow g\left(\frac{1}{2}\right) = a \rightarrow a > \frac{1}{2} \times \frac{1}{2} = \frac{1}{4}$$

$$\alpha\beta = \frac{\beta}{\alpha} \rightarrow \alpha^2 = \frac{1}{\beta} \rightarrow \alpha \leq \pm \frac{1}{\beta}$$

سوال ۳-

$$\lambda \leq \alpha : \alpha \times \frac{1}{\alpha} + \sum \alpha + \beta = 0 \rightarrow \alpha + \beta = 0 \rightarrow \beta = -\alpha$$

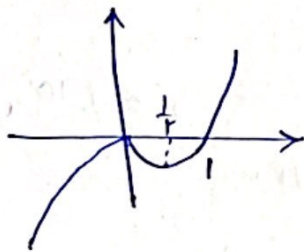
$$\Rightarrow \beta > \alpha \begin{cases} \alpha \leq -\frac{1}{\alpha} \\ \beta \leq 1 \end{cases}$$



نتیجه ۱

$$-\frac{1}{2} < \frac{-1}{\lambda} < 0 \rightarrow -\frac{1}{2} < \frac{1}{\lambda-1} < 0 \rightarrow \lambda-1 < -\frac{1}{2} \xrightarrow{W} \lambda = 1, 2$$

سوال ۴-



$$(a, b) = \left(\frac{1}{2}, \frac{1}{2}\right) \rightarrow a + b \leq \frac{1}{2}$$

نتیجه ۳

سوال ۵- نتیجه ۲

$$f(1) = 0 : 1 + Cx^{a+b} = 0 \rightarrow Cx^{a+b} = -1$$

$$f(0) = \frac{1}{e} : 1 + Cx^a = \frac{1}{e} \rightarrow Cx^a = -\frac{1}{e} \xrightarrow{\div} C = -\frac{1}{e} \rightarrow b \leq 1$$

$$f(-1) = 1 + Cx^{a-b} \leq 1 + \frac{Cx^a}{e^b} = 1 + \frac{Cx^a}{e} \leq 1 + \frac{-1}{e} \leq 1 - \frac{1}{e} \leq \frac{1}{9}$$

$$g(1) \leq \frac{1}{e} - \frac{1}{e} \leq 1$$

$$\rightarrow g^{-1}(1) \leq 1 \rightarrow a + a > 1 \rightarrow a \leq \frac{1}{2}$$

سوال ۶- نتیجه ۳

$$\tan \theta > -\frac{1}{\mu} \leq -\frac{c}{\varepsilon} \rightarrow \tan\left(\frac{\pi}{c} - \alpha\right) \leq \cot \alpha \leq -\frac{\varepsilon}{c}$$

سوال ۸ - لکھیں

$$\frac{-3\cos 4\pi - 2\sin 4\pi}{-5\cos 4\pi - \sin 4\pi} \leq \frac{-4\sin 4\pi}{-5\sin 4\pi} \leq \frac{3}{4} \leq 9d$$

سوال ۹ - لکھیں

$$2\sin x \cos x (1 - 2\sin x) = 0 \quad \begin{cases} \sin x = 0 \rightarrow x = 0 \\ \cos x = 0 \rightarrow x = \frac{\pi}{2} \\ \sin x = \frac{1}{2} \rightarrow x = \frac{\pi}{6}, \frac{5\pi}{6} \end{cases}$$

سوال ۱۰ - لکھیں

$$\frac{1\pi}{1a} \leq \frac{1\pi}{\varepsilon} - \frac{c\pi}{\varepsilon} \leq \pi \rightarrow |a| \leq c$$

سوال ۱۱ - لکھیں

$$T = \frac{1\pi}{1a} \leq ca |a| \leq \varepsilon \pi$$

$$f(1^+) \leq \frac{1+c}{1} \leq 9d$$

$$f(1^-) \leq \frac{c+c}{c} \leq 9d$$

سوال ۱۲ - لکھیں

$$\frac{a+c(-1)}{c} \leq -\infty \Rightarrow a-3 > 0 \Rightarrow a > 3$$

سوال ۱۳ - لکھیں

$$\lim_{x \rightarrow \frac{1}{c}} \left[\frac{x}{a} - x \right] = \left[\frac{1}{c} + \frac{1}{c} \left(\frac{1}{c} - 1 \right) \right] = -1$$

$$\begin{aligned} & \lim_{x \rightarrow a} [x^2 - ax] \text{ (ریٹیو) } \rightarrow b \rightarrow f(a) = -ca \\ & \rightarrow \frac{a}{f(b)} = \frac{a}{-ca} = -\frac{1}{c} \end{aligned}$$

سوال ۱۴ - لکھیں

$$\frac{x+d}{v} \leq \frac{cx-1}{cx+1} \rightarrow 3x^2 + dx + d \leq Vax - V \Rightarrow 3x^2 + (14-Va)x + 12 \leq 0$$

سوال ۱۵ - لکھیں

$$\rightarrow x^2 + \frac{14-Va}{c}x + \varepsilon \leq 0 \quad \text{بجائے} \quad \frac{14-Va}{\mu} = -\varepsilon \rightarrow 14-Va \leq -1c \rightarrow a \leq \varepsilon$$

$$f(x) = (x^2+1)^a (a x+1)$$

سوال ۱۶ - ترتیب ۳

$$\frac{f(0) - f(-1)}{0 - (-1)} = -11 \rightarrow 1^3 \cdot 1 - 2^3(-a+1) = -11 \rightarrow 1(1-a) = 10$$

$$\rightarrow 1-a = 10 \rightarrow a = -9 \Rightarrow f'(x) = 2(x^2+1)^a \cdot 2x(-a+1) + (x^2+1)^a \cdot 2$$

$$f'(-10) = f'(1) = 2 \cdot 10^2 \cdot (-9+1) + 1 \cdot 10^2 = 100 - 1800 = -1700$$

$$y = x^3 - 10x + 2 \rightarrow y' = 3x^2 - 10$$

سوال ۱۷ - ترتیب ۱

x	-1	0	1
y	+	0	-
y'	↗	↘	↗
	max		min

$$y_{\min} = y(1) = 1 - 10 + 2 = -7$$

$$S = (x^2 - 2x) \sqrt{2-x} = (x^2 - 2x) \sqrt{2-x}$$

سوال ۱۸ - ترتیب ۵

$$(x^2 - 2x) \sqrt{2-x} = 0 \rightarrow 12x^2 - 8x^3 = 0 \rightarrow x = 0 \Rightarrow \sum_{n=0}^{\infty} = 2 \times 2 \times 1 = 4$$

$$11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100$$

سوال ۱۹ - ترتیب ۵

$$11 + 12 + 13 + 14 = 50 \rightarrow 20 = 44 \rightarrow a = 20$$

$$\frac{8+27}{2} = \frac{35}{2} = 17.5$$

$$[1, 2, 3, 4, 5] \rightarrow 2! = 2 \times 1 = 2$$

سوال ۲۰ - ترتیب ۵

$$1 - \frac{4+14}{24} = 1 - \frac{18}{24} = \frac{6}{24} = \frac{1}{4}$$

سوال ۲۱ - ترتیب ۲

$$\frac{4}{10} \times \frac{4}{10} + \frac{1}{10} \times \frac{2}{10} = \frac{17}{100} = \frac{17}{100} = \frac{17}{100} \quad \text{سوال ۲۲ - گزینه ۱}$$

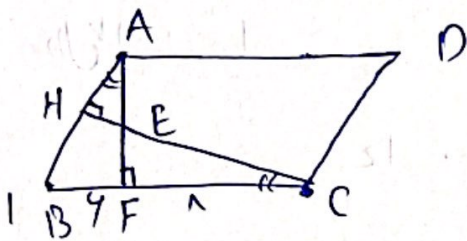
$$(1, -\frac{1}{c})$$

سوال ۲۲ - گزینه ۱

$$A(1, 0) = (1, -\frac{1}{c}) + (1, \frac{1}{c})$$

$$B = (1, -\frac{1}{c}) + (\frac{1}{c}, -1) = (\frac{c}{c}, -\frac{c}{c})$$

$$C(0, -1)$$

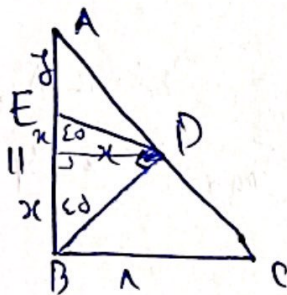


$$\triangle BAF \sim \triangle ECF \rightarrow \frac{BF}{EF} = \frac{AF}{CF}$$

سوال ۲۲ - گزینه ۱

$$\rightarrow \frac{y}{x} = \frac{1+x}{1} \rightarrow x(x+1) = 1$$

$$\rightarrow x < 1 \rightarrow AF = 1+x < 2$$



$$x = \frac{1}{c}$$

$$\frac{1}{c} = \frac{2 \cdot \frac{1}{c}}{2 \cdot 1} \rightarrow \frac{1}{c} = \frac{2 \cdot \frac{1}{c}}{2}$$

سوال ۲۲ - گزینه ۱

$$\rightarrow 11y + 101 = 14y + 111 \rightarrow 3y = 10 \rightarrow y = \frac{10}{3}$$

$$B = \frac{\sqrt{17} + \sqrt{5}}{2\sqrt{17} + \sqrt{5}} \cdot \frac{\sqrt{17}}{\sqrt{17}} \rightarrow B = \frac{17 + \sqrt{85}}{2\sqrt{17} + \sqrt{5}} = \frac{17 + \sqrt{85}}{17 - 5} = \frac{17 + \sqrt{85}}{12}$$

$$\rightarrow 3B = \frac{17 + \sqrt{85}}{4} = \sqrt{17} - 1 \rightarrow 3B + 1 = \sqrt{17}$$

$$n(A \cap B) = n(A - B) = n(B - A)$$

سوال ۲۲ - گزینه ۱



$$\rightarrow 19x = 20 \rightarrow x = \frac{20}{19}$$

$$\rightarrow n(A) = 12x = \frac{240}{19}$$

$$d' = b_1 - b_1 = (a_1 + \varepsilon) - (a_1 + \varepsilon) = a_1 - a_1 = 0$$

سوال ۲۸ - نمره ۱

$$\rightarrow b_n \leq a_n + \varepsilon \rightarrow b_n - a_n \leq \varepsilon$$

$$f(1): 1 + 2a = a + d \rightarrow a = d$$

سوال ۲۹ - نمره ۲

$$f(a) \leq f(c) \leq a + d \leq c + d \leq c$$

سوال ۳۰ - نمره ۳

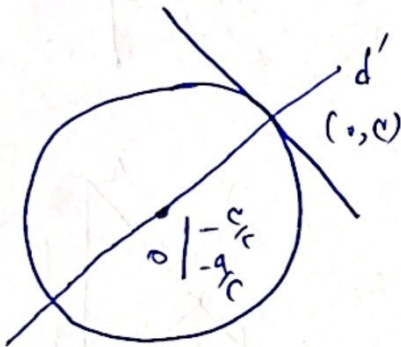
$$c_1 + c_2 = 9 \rightarrow m = \frac{c}{c} \rightarrow m' = \frac{c}{c}$$

$$(0, c) \rightarrow d': y = \frac{c}{c}x + c$$

$$o(-\frac{c}{c}, -\frac{c}{c})$$

$$\rightarrow -\frac{c}{c} = -\frac{c}{c} \Rightarrow d' = \frac{c}{c}$$

$$d: y = x + 9$$



$$\rightarrow a = \frac{c}{c}$$

@ Yasir qan'panjeh

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