

1-4

$$-m^2 + m + 1 = -m - n \Rightarrow m^2 - (m+1)n - (m+1) = 0 \xrightarrow{\text{قطع نهند}} \Delta < 0$$

$$\Delta m^2 + 4m + 1 < 0 \quad \begin{matrix} a+c=b \\ m=-1 \\ m=-\frac{1}{\Delta} \end{matrix} \quad -1 < m < -\frac{1}{\Delta} \rightarrow \text{مربع متدا- صحیح} \\ \text{گزینہی 4}$$

2-3

$$f \circ g^{-1}(a) = -3 \rightarrow f(?) = -3 \quad ? = \frac{1}{4}$$

$$g^{-1}(a) = \frac{1}{4} \rightarrow g\left(\frac{1}{4}\right) = a = -\frac{1}{4} \times \frac{1}{2} = -\frac{1}{8} \quad \text{گزینہی 3}$$

3-1

$$\alpha\beta = \frac{c}{a} = \frac{B}{2\Delta\alpha} \Rightarrow \alpha = \frac{1}{2\Delta\alpha} \Rightarrow \alpha^2 = \frac{1}{2\Delta} \Rightarrow \alpha = \pm \frac{1}{\sqrt{2\Delta}}$$

$$B > \alpha \rightarrow \alpha = -\frac{1}{\Delta} \quad \alpha + \beta = -\frac{b}{a} = \frac{4}{2\Delta\alpha} \Rightarrow -\frac{1}{\Delta} + \beta = \frac{4}{\Delta} \Rightarrow \beta = 1 \rightarrow \begin{matrix} a = -\Delta \\ b = 4 \\ c = 1 \\ \Delta = 34 \end{matrix}$$

$$\text{ربع اول : } \left(-\frac{b}{2a}, \frac{-\Delta}{4a}\right) : \left(\frac{2}{\Delta}, \frac{9}{\Delta}\right) \rightarrow \text{ربع اول} \\ \text{گزینہی 1}$$

4-3

$$-4 < y = \frac{1}{n-2} < 0$$

$$\underbrace{\hspace{10em}}_{n < 2}$$

$$\frac{1}{n-2} + 4 > 0 \Rightarrow \frac{4n-11}{n-2} > 0$$

$$\frac{\frac{11}{4} \quad 2}{+ \quad | \quad - \quad | \quad +}$$

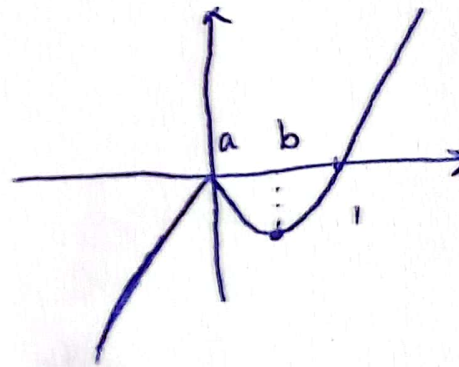
\checkmark \times \checkmark
 قوی غوی

$$\begin{matrix} x=1 \\ x=2 \end{matrix}$$

گزینہی 3

0-2

$$y \begin{cases} x^2 - n & x > 0 \\ -x^2 + n & x < 0 \end{cases}$$



$x^2 - n \rightarrow$ طول راستی $= \frac{1}{r} = b$

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

گزینه ۲

4-2

$$f(1) = 0 \quad 1 + c \times e^{a+b} = 0$$

$$1 + c \times e^a \times e^b = 0$$

$$f(1) = \frac{r}{e} \quad 1 + c \times e^a = \frac{r}{e} \Rightarrow c \times e^a = -\frac{1}{e} *$$

$$\Rightarrow 1 + \left(-\frac{1}{e}\right) e^b = 0$$

$$\Rightarrow 1 = \left(\frac{1}{e}\right) e^b \Rightarrow 1 = e^{b-1} \Rightarrow b-1 = 0 \quad b=1$$

$$f(-1) = 1 + c \times e^{a-b} = 1 + c \times e^{a-1} = 1 + \frac{-\frac{1}{e}}{e} = \frac{1}{e}$$

گزینه ۲

V-۳

$$y^{-1}(r) = \frac{\partial}{r} - \frac{r}{r} = \frac{1}{r} \Rightarrow y\left(\frac{1}{r}\right) = r \Rightarrow \frac{a}{r} + \frac{a}{r} = r \Rightarrow a = \frac{r^2}{2}$$

گزینی ۳

A-۴

$$\tan(\pi - \alpha) = \frac{1}{\frac{\partial}{r}} = \frac{r}{\partial} = -\tan \alpha \Rightarrow \tan \alpha = -\frac{r}{\partial}$$

$$\tan\left(\frac{\pi}{r} - \alpha\right) = \cot \alpha = -\frac{\partial}{r} \quad \text{گزینی ۴}$$

9-۴

$$\frac{r \cos(2\pi - 2r) - r \sin(1\pi - 2r)}{\sin(1\pi + 2r) - \cos(2\pi + 2r)} = \frac{-r \sin(2r) - r \sin(2r)}{-\sin(2r) - \sin(2r)} = \frac{\partial}{r} = r, \partial \quad \text{گزینی ۴}$$

10-۲

$$r \sin x \cos x - r \sin^2 x \cos x = 0 \Rightarrow r \sin x \cos x (1 - r \sin x) = 0$$

$$\sin x = 0 \rightarrow x = 0, \cos x = 0 \rightarrow x = -\frac{\pi}{2}, \frac{\pi}{2}, \sin x = \frac{1}{r} \rightarrow x = \frac{\pi}{4}, \frac{3\pi}{4}$$

گزینی ۲

11-1

$$T_i = \frac{r_n}{|a|} = \frac{V_n}{\epsilon} - \frac{r_n}{\epsilon} = n \Rightarrow |a| = r$$

@HV4ali
علی حسینی

$$T_r = \frac{r_n}{\frac{1}{a}} = r_n$$

گزینہ ۱

12-3

$$\left. \begin{array}{l} \lim_{x \rightarrow 1^+} f + \lim_{x \rightarrow 1^+} g = 0 \\ \lim_{x \rightarrow 1^+} f - \lim_{x \rightarrow 1^+} g = \delta \end{array} \right\} \lim_{x \rightarrow 1^+} f = \frac{\delta}{2} = r, \delta$$

→ تقریباً

$$\left. \begin{array}{l} \lim_{x \rightarrow 1^-} f + \lim_{x \rightarrow 1^-} g = r \\ \lim_{x \rightarrow 1^-} f - \lim_{x \rightarrow 1^-} g = r \end{array} \right\} \lim_{x \rightarrow 1^-} f = \frac{\delta}{2} = r, \delta$$

$13-4$

$$\lim_{x \rightarrow \frac{1}{r}^+} \frac{a + r[-x]}{1 - rx} = \frac{a - r}{0^-} = -\infty \Rightarrow a - r > 0 \quad a > r$$

$$\lim_{x \rightarrow \frac{1}{r}} \left[\frac{x}{a} - x \right] = \left[\frac{1}{ra} - \frac{1}{r} \right] \begin{array}{l} a > r \\ \text{if } a = r \end{array} \left[\frac{1}{a} - \frac{1}{r} \right] = -1$$

ترتیب ۴

14-1

$$\text{if } b=0 \rightarrow \frac{a}{f(b)} = \frac{a}{f(-)} = \frac{a}{-2a} = -\frac{1}{2} \quad \text{ریشه 1}$$

15-2

$$y_1 = y_2 \Rightarrow \frac{an-1}{2n+1} = \frac{n+d}{v} \Rightarrow Van - v = 2n^2 + 14n + d$$

$$\Rightarrow 2n^2 + (14 - Va)n + 12 = 0 \quad \Delta = 0 \Rightarrow (14 - Va)^2 - 144 = 0$$

$$14 - Va = \pm 12 \Rightarrow Va = 14 \mp 12 \begin{cases} a = \frac{2}{v} \rightarrow 2n^2 + 12n + 12 = 0 \quad (n+2)^2 = 0 \rightarrow n = -2 \\ a = 2 \rightarrow 2n^2 - 12n + 12 = 0 \quad (n-2)^2 = 0 \end{cases}$$

ریشه 2

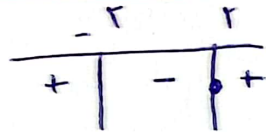
14-3

$$\frac{f(1) - f(-1)}{1} = -11 \Rightarrow 1 - (-11a + 1) = -11 \Rightarrow a = -\frac{1}{2}$$

$$f'(1) \rightarrow f'(n) = 4n(n^2+1)^2 \left(-\frac{1}{2}n+1\right) + \left(-\frac{1}{2}\right)(n^2+1)^2 \rightarrow f'(1) = 8 \quad \text{ریشه 3}$$

IV-1

$$y' = c^n r^{-1r} \quad n = \pm 2$$



$n = 2 \rightarrow$
میں سے

$$y(2) = -1^4$$

گزیں 1

V-4

$$S = 2n y = 2n \sqrt{e-n} = 2 \sqrt{e n^2 - n^3} \xrightarrow{S'} 12n^2 - 6n^3 = 0 \quad n = 2 \Rightarrow S = 4$$

گزیں 4

۱۹-۴

$$1, 4, 9, 16, 25, 36, 49$$

$$\bar{x} = \frac{2a+4d}{5} = 24 \rightarrow a=22 \rightarrow \bar{x} = \frac{42+47}{2} = 54,5 \quad \text{گزینه ۴}$$

۲۰-۳

$$4! \times 4! = 144 \quad \text{گزینه ۳}$$

۲۱-۲

$$P(A \cup B) = \frac{14}{24} \rightarrow P(A' \cap B') = 1 - \frac{14}{24} = \frac{10}{24} = \frac{5}{12} \quad \text{گزینه ۲}$$

۲۲-۱

$$A: \text{آبی} + A: \text{قرمز} + A: \text{سبز} = \frac{4}{15} \times \frac{4}{15} + \frac{5}{15} \times \frac{5}{15} + \frac{6}{15} \times \frac{6}{15} = \frac{9}{25} = 0,36$$

$$B: \text{آبی} + B: \text{آبی} + B: \text{آبی} = \frac{4}{15} \times \frac{4}{15} + \frac{5}{15} \times \frac{5}{15} + \frac{6}{15} \times \frac{6}{15} = \frac{9}{25} = 0,36 \quad \text{گزینه ۱}$$

۲۳-۲

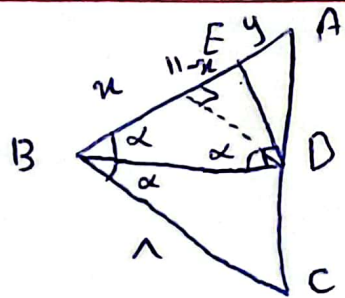
$$m_{AC} = \frac{1}{2} \rightarrow m_{BD} = -2 \text{ و } \left(\frac{2+0}{2}, \frac{0-1}{2}\right) : \left(1, -\frac{1}{2}\right) \rightarrow y = -2x + \frac{5}{2}$$

$$\left(\frac{5}{2}, -\frac{5}{2}\right) \leftarrow \text{نقطه شامل این خط است.} \quad \text{گزینه ۲}$$

۲۴-۳

$$\triangle ABF \sim \triangle CEF \Rightarrow \frac{EF}{4} = \frac{1}{1+EF} \Rightarrow EF=4 \Rightarrow AF=12 \quad \text{گزینه ۳}$$

۲۵-۱



$$x^2 = x(11-x)$$

$$\Rightarrow x = \frac{11}{2} = 5,5 \Rightarrow \frac{y+5,5}{y+11} = \frac{5,5}{12} \Rightarrow 12y + 11 \cdot 12 = 11y + 132$$

$$\Rightarrow y = 4,4 \quad \text{گزینه ۱}$$

۲۶-۲

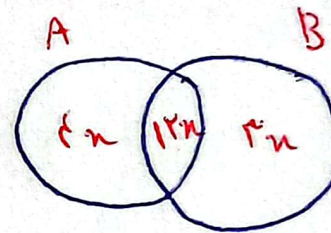
$$B = \frac{\sqrt{2} + \sqrt{18}}{\sqrt{2} + \sqrt{18}} \stackrel{\div \sqrt{2}}{=} \frac{1 + \sqrt{9} \times \sqrt{9}}{\sqrt{2} + \sqrt{2} \times \sqrt{9}} = \frac{\sqrt{2} + 9\sqrt{2} - \sqrt{2}}{14 - \sqrt{2}} = \frac{9\sqrt{2} - \sqrt{2}}{9} = \frac{\sqrt{2} - 1}{9} \Rightarrow \sqrt{2} B + 1 = \sqrt{2}$$

@H74A1i علی حسینی

گزینی ۲

۲۷-۴

$$\frac{n(A \cap B)}{12n} = \frac{3n(A - B)}{4n} = \frac{2n(B - A)}{3n} \quad \text{نمودار ون}$$



$$12n + 4n + 3n = 19n = 87 \Rightarrow n = 3$$

$$n(A) = 14n = 42 \quad \text{گزینی ۴}$$

۲۸-۱

$$\left. \begin{array}{l} a, a+d \rightarrow a_{n_1} = a + (n-1)d \\ a+\epsilon, a+d+\epsilon \rightarrow a_{n_2} = a + \epsilon + (n-1)d \end{array} \right\} \text{اختلاف: } \epsilon$$

گزینی ۱

۲۹-۲

$$f(1) \rightarrow r + ra = a + d \Rightarrow a = r$$

$f(r) = rV + d = 2r$
فرض کنیم $r = 2$

۳۰ - ۴

$$O\left(-\frac{a}{r}, -\frac{a}{r}\right)$$

$$\frac{r + \frac{a}{r}}{\frac{r}{r}} = \frac{r}{r} \Rightarrow r + \frac{a}{r} = \frac{r}{r}$$

$$a = -1/d$$

tel: @H74A1i
علی حسینی