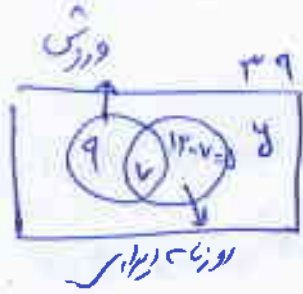


استفاده منبع مکتبی
دوره اول دبیرستان

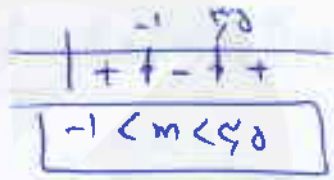
بازخ نشریحی مسالان کنکور اسرار 98 ریاضی



1.1 - گزینه 4 صحیح است
 مشترک $17 - x = 9 \Rightarrow x = 7$
 $9 + 7 + 5 + y = 39$
 $21 + y = 39 \Rightarrow y = 18$

1.2 - گزینه 2 صحیح است
 $A = \sqrt[5]{2^2 \times 2^{\frac{4}{5}} \times 2^{\frac{4}{5}}} = \sqrt[5]{2^{\frac{14}{5}}} = 2^{\frac{14}{5} \times \frac{5}{14}} = 2^1 = 2$
 $2A = 4 \rightarrow (2A)^{\frac{1}{2}} = 4^{\frac{1}{2}} = 2$

1.3 - 9
 $\Delta > 0 \Rightarrow 3y - 4(m-1)(m-2) > 0$
 $3y - 4(m^2 - 4m + 2) > 0 \Rightarrow 4m^2 - 2m - 2A < 0$



باید گفت قریب
 چه درم هم مخالف شوند
 $m-1 \neq 0$
 $m \neq \frac{1}{2}$

1.4 - گزینه 1 صحیح است
 $y = -x^2 + 2x + 8 = -(x^2 - 2x - 8) = -(x-4)^2 + 4$
 $-(x-4)^2 + 4 > x \Rightarrow x^2 - 7x + 12 < 0 \Rightarrow 3 < x < 4$

1.5 - گزینه 2 صحیح است
 $n = \left[\frac{99}{\sqrt{2}} \right] - \left[\frac{9}{\sqrt{2}} \right] = 14 - 1 = 13$
 $S_n = \frac{13}{2} (14 + 98) = 728$

1.6 - گزینه 4 صحیح است
 $\frac{1}{x} + \frac{1}{y} = \frac{1}{2}$
 $\frac{1}{x} + \frac{1}{x+9} = \frac{1}{2} \Rightarrow \frac{2x+9}{2x(x+9)} = \frac{1}{2} \Rightarrow x^2 - 34x - 18 = 0$
 $(x+6)(x-34) = 0 \Rightarrow x = 34$

1.7 - گزینه 1 صحیح است
 $f^{-1} = \{(2, 1), (5, 2), (4, 3), (7, 4)\}$
 $g = \{(2, 3), (4, 2), (5, 4), (7, 1)\}$
 $g \circ f^{-1} = \{(5, 3), (4, 1), (7, 2)\} \rightarrow \frac{g}{g \circ f^{-1}} = \{(5, \frac{3}{2}), (7, \frac{2}{1})\} = \{(5, 2), (7, 2)\}$

۱۰۸ - گزینہ ۲ صحیح

$$f(x) = -r + \left(\frac{1}{r}\right)^{Ax+B} = x^r - x$$

$$x=1 \rightarrow -r + \left(\frac{1}{r}\right)^{A+B} = 1-1=0 \rightarrow \left(\frac{1}{r}\right)^{A+B} = r \Rightarrow r^{-A-B} = r \Rightarrow -A-B=1$$

$$x=r \rightarrow -r + \left(\frac{1}{r}\right)^{rA+B} = r-r=0 \Rightarrow \left(\frac{1}{r}\right)^{rA+B} = r \Rightarrow r^{-rA-B} = r \Rightarrow -rA-B=1$$

$$A=1, B=0 \rightarrow f(x) = -r + \left(\frac{1}{r}\right)^{-x} \rightarrow f(r) = -r + \left(\frac{1}{r}\right)^{-r} = -r + r = r$$

$$\tan \frac{11\pi}{8} = \tan\left(\frac{14\pi}{8} - \frac{\pi}{8}\right) = \tan\left(-\frac{\pi}{8}\right) = -\tan \frac{\pi}{8} = -1$$

۱۰۹ - گزینہ ۲ صحیح

$$\sin \frac{13\pi}{8} = \sin\left(\frac{14\pi}{8} - \frac{\pi}{8}\right) = \sin\left(-\frac{\pi}{8}\right) = -\sin \frac{\pi}{8} = -\frac{\sqrt{r}}{r}$$

$$\cos \frac{13\pi}{8} = \cos\left(\frac{14\pi}{8} - \frac{\pi}{8}\right) = \cos\left(-\frac{\pi}{8}\right) = \cos \frac{\pi}{8} = \frac{\sqrt{r}}{r}$$

$$-1 + \left(-\frac{\sqrt{r}}{r}\right)\left(\frac{\sqrt{r}}{r}\right) = -1 + \frac{1}{r} = -\frac{1}{r}$$

۱۱۰ - گزینہ ۳ صحیح

$$\lim_{x \rightarrow 0} \frac{\sin a \cos x + \cos a \sin x - \sin a}{x} = \lim_{x \rightarrow 0} \frac{\sin(a+x) - \sin a}{x}$$

$$\lim_{x \rightarrow 0} \frac{\cos(a+x)}{1} = \cos a$$

۱۱۱ - گزینہ ۳ صحیح

$$\lim_{x \rightarrow r^+} \frac{r}{1 - \frac{1}{r\sqrt{x+r}}} = \frac{r}{1 - \frac{1}{r}} = \frac{r}{1 - \frac{1}{r}} = r$$

$$\lim_{x \rightarrow r^-} \ln ax - 1 = ra - 1$$

مقررہ = حد = $ra - 1 = r \Rightarrow a = \frac{r+1}{r}$

$$T = \frac{r\pi}{8} - \left(-\frac{\pi}{8}\right) = \pi$$

$$y = 1 + \frac{a}{p} \sin rbx \rightarrow T = \frac{r\pi}{rb} = \frac{\pi}{b} = \pi \Rightarrow b=1$$

$$\text{Max} = \frac{r}{p} = 1 + \frac{a}{p} \Rightarrow a=1 \Rightarrow a+bp$$

$b=1$

113 - گزینہ 1 صحیح

$$(\sin x + \cos x)(\sin^2 x - \sin x \cos x + \cos^2 x) = 1 - \frac{1}{2} \sin 2x$$

$$(\sin x + \cos x)(1 - \frac{1}{2} \sin 2x) = (1 - \frac{1}{2} \sin 2x) = 0$$

$$\left[1 - \frac{1}{2} \sin 2x\right] (\sin x + \cos x - 1) = 0 \Rightarrow \begin{cases} 1 - \frac{1}{2} \sin 2x = 0 \Rightarrow \sin 2x = 2 \text{ (impossible)} \\ \sin x + \cos x - 1 = 0 \Rightarrow \sqrt{2} \left(\sin\left(x + \frac{\pi}{4}\right)\right) = 1 \end{cases}$$

$$\sin\left(x + \frac{\pi}{4}\right) = \frac{1}{\sqrt{2}} \Rightarrow \begin{cases} x + \frac{\pi}{4} = 2k\pi + \frac{\pi}{4} \Rightarrow x = 2k\pi \Rightarrow x = 0, 2\pi \\ x + \frac{\pi}{4} = 2k\pi + \pi - \frac{\pi}{4} \Rightarrow x = 2k\pi + \frac{3\pi}{4} \Rightarrow x = \frac{3\pi}{4} \end{cases}$$

$$\text{جواب} \Rightarrow +2\pi + \frac{\pi}{4} = \frac{9\pi}{4}$$

Q1: $\lim_{x \rightarrow r} \frac{rx - d}{x^2 + ax + b} = -\infty$

114 - گزینہ 2 صحیح

$$(x-r)^2 = x^2 - (a+r)x + r^2 = x^2 + ax + b \Rightarrow \begin{cases} a = -r \\ b = r^2 \end{cases} \Rightarrow a + b = 0$$

$$(f \circ g)'(1) = g'(1) f'(g(1)) = \frac{r}{p} \times \frac{r}{p} = \frac{r^2}{p^2}$$

$$\begin{aligned} g'(x) &= 1 + \frac{1}{\sqrt{x}} & g(1) &= 1 + \sqrt{1} = 2 \\ g'(1) &= 1 + \frac{1}{1} = \frac{r}{p} \end{aligned}$$

$$\lim_{x \rightarrow 1} \frac{f(x) - f(1)}{x - 1} = \frac{r}{p} \Rightarrow f'(1) = \frac{r}{p}$$

$$\lim_{x \rightarrow r} \frac{f(x) - f(r)}{x - r} = \lim_{x \rightarrow r} \frac{f(x) - f(r)}{x - r}$$

$$f - f = r + ra + b \rightarrow ra + b = r$$

114 - گزینہ 1 صحیح

$$\lim_{x \rightarrow r} \frac{f(x) - f(r)}{x - r} = \lim_{x \rightarrow r} \frac{f(x) - f(r)}{x - r}$$

$$-rx + r = x + a$$

$$-r + r = r + a$$

$$a = -r$$

$$\Rightarrow b = r \Rightarrow a + b = r - r = 0$$

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117 - گزینہ 4 صحیح

$$\begin{aligned} f(x) &= \sqrt{x+1} \\ f(0) &= 1 \end{aligned}$$

$$\lim_{x \rightarrow 0} \frac{f(x) - f(0)}{x - 0} = \frac{f(1) - f(0)}{1 - 0} = \frac{1 - 1}{1} = 0$$

$$\lim_{x \rightarrow 0} \frac{f(x) - f(0)}{x - 0} = \lim_{x \rightarrow 0} \left(\sqrt{x+1} + \frac{r}{2\sqrt{x+1}} (x+1) \right) \xrightarrow{x=0} 1 + \frac{r}{2} \left(\frac{r}{2} + 1 \right) = 1 + \frac{r^2}{4}$$

$$\delta - \left(1 + \frac{r^2}{4}\right) = \frac{r^2}{4}$$

$$y' = 1rx^r + ra_n x^{r-1} + rbx + c \xrightarrow{y'=0} 1r + ra + rb + c = 0 \quad \text{گزینہ ۱۱۸ صحیح}$$

$$y'(0) = 0 \rightarrow c = 0$$

$$\rightarrow a = -1$$

$$y'' = r^2 x^{r-2} + ra x^{r-1} + rb = 0 \xrightarrow{y''=0} r^2 + ra + rb = 0$$

$$f(x) = \frac{x^r + rx}{(x-1)^r} \Rightarrow y' = \frac{(r+1)(x-1) - r(x-1)(x^r + rx)}{(x-1)^2}$$

119 - گزینہ صحیح

$$(x-1) [(r+1)(x-1) - r(x^r + rx)] = 0 \quad \begin{cases} x = 1 \\ x = -\frac{1}{r} \end{cases} \quad 1 - (-\frac{1}{r}) = \frac{r}{r}$$



سایت کنکور

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