

بہمن

۱- $m - 9m + 900 \Rightarrow m = 30 \Rightarrow \frac{1}{m} = \frac{1}{30} = a$

$\Rightarrow \lim_{n \rightarrow \infty} \frac{\sqrt{9(n+1)^2}}{|2n + \frac{1}{2}|} = \sqrt{9} \left| \frac{n+1}{2n + \frac{1}{2}} \right| \xrightarrow{H.O.P.} = \frac{3}{2}$

۲- $\lim_{n \rightarrow \infty} \frac{2\sqrt{2}}{n} = \frac{2\sqrt{2}}{\sqrt{1/4}} = 4\sqrt{2}$

$\text{Arc tan } \frac{\sqrt{2}}{2} = \pi/4 \Rightarrow \text{جواب } \pi/4$

۲- $\begin{cases} 1+a+b=0 \\ a-b=0 \end{cases} \Rightarrow a=2, b=-3$

$\left[\frac{-3-2}{2} \right] = (-\frac{5}{2})$ ✓

۳- $n=1 \rightarrow \tan \frac{\pi}{2} = -1 \xrightarrow{H.O.P.} \frac{n+1}{-a} = \frac{2}{-1} = -2$

$\Rightarrow \frac{a}{2} = -2 \Rightarrow a = -4$

$\Rightarrow b \times 1 = -\frac{1}{2} \Rightarrow b = -\frac{1}{2} \Rightarrow ab = -\frac{1}{2} \times -4 = 2$ ✓

۴- $f(x) = a[x+1] + b[x+[a+1]] = (a+b)[x] + a + b + b[a]$

جواب $f(x) = -a[a]$

$a = -b \Rightarrow f(x) = -a[a] = \frac{a[a]}{1}$ ✓

همین

$$1 - \text{مورد } \infty \Rightarrow m - 9m + 9 = 0 \Rightarrow m = \frac{3}{2} \Rightarrow \rho \cdot \bar{w} = n = -\frac{1}{2} = a$$

$$\Rightarrow \lim_{n \rightarrow -\frac{1}{2}} \frac{\sqrt{9(n + \frac{1}{2})^2}}{|n + \frac{1}{2}|} = \sqrt{9} \left| \frac{n + \frac{1}{2}}{n + \frac{1}{2}} \right| \xrightarrow{H.o.P} = \frac{2\sqrt{9}}{3}$$

$$\text{در حد } \infty, \lim_{n \rightarrow \infty} \frac{2\sqrt{9}}{3} = \frac{2\sqrt{9}}{3} \Rightarrow \lim_{n \rightarrow \infty} \frac{2\sqrt{9}}{3} = \frac{2\sqrt{9}}{3} \Rightarrow$$

$$\text{Arc tan } \frac{\sqrt{9}}{3} = \frac{\pi}{4} \Rightarrow \boxed{b = \frac{\pi}{4}} \leftarrow \text{جواب}$$

$$2 - \text{در صورت } 1 + a + b = 0 \Rightarrow a = 2, b = -3$$

$$\left[\frac{-3 - \varepsilon}{2} \right] = \boxed{-3} \leftarrow \text{جواب}$$

$$3 - n = 1 \Rightarrow \tan \frac{\pi}{2} = -1 \leftarrow \text{در حد } \infty, \lim_{n \rightarrow \infty} \frac{n+1}{-a} = \frac{1}{-a} = -1 \Rightarrow$$

$$\Rightarrow \underline{a = \frac{1}{2}} \leftarrow \text{در حد } \infty \Rightarrow \frac{2n}{-1} = -\frac{2}{1} = \lim_{n \rightarrow \infty} \frac{2n}{-1} = -2 \Rightarrow$$

$$\Rightarrow b \times 1 = -\frac{2}{1} \Rightarrow b = -\frac{2}{1} \Rightarrow ab = -\frac{2}{1} \times \frac{1}{2} = \boxed{-1} \leftarrow \text{جواب}$$

$$4 - f(x) = a[x+1] + b[x+[a+1]] = (a+b)[x] + a + b + b[a]$$

$$a = -b \Rightarrow f(x) = -a[a] \Rightarrow \frac{a[a]}{a[a]} = \boxed{-1}$$

بهمین چون f در R پیوسته است پس فرب بر آن جزئیات

$$\Rightarrow b=0 \Rightarrow f(x) = -2a \Rightarrow \frac{a}{f(b)} = \frac{a}{-2a} = -\frac{1}{2}$$

$$\lim_{x \rightarrow a} \frac{x^r + mx + n}{a - x} \stackrel{HOP}{=} \lim_{x \rightarrow a} \frac{rx + m}{-1} = -r - \frac{m}{1}$$

$$a, 2a \Rightarrow a^r + ma + n = 0$$

$$\Rightarrow ra + ma = 0 \Rightarrow a(r+m) = 0$$

$$(1) a = 0 \Rightarrow m = -r, n = 0 \quad a = 0$$

$$(2) m = -r - \frac{ra}{n-m} \Rightarrow ra + m = -r \quad a = r$$

$$(3) m = -r \quad n = 1 \Rightarrow n - m = 1$$

$$1 - a = ra - 1 \Rightarrow a < \frac{1}{r} \Rightarrow \frac{1}{r}([n] + [-n]) = -\frac{1}{r}$$

$$b \text{ و } (r/n) = -\frac{1}{r} \Rightarrow b = \frac{1}{r} \Rightarrow a = \frac{1}{r} \Rightarrow \frac{1}{r} \Rightarrow \frac{1}{r}$$

$$\frac{|x^r + mx + n - 1|}{m|x^r - 1| + |n - 1|} \stackrel{HOP}{=} \frac{|r + m|}{r + 1} = \frac{m}{m + r} \Rightarrow m < \frac{1}{\epsilon}$$

$$n = \frac{1}{\epsilon} \rightarrow \lim_{n \rightarrow \frac{1}{\epsilon}} f_n = \frac{1}{\epsilon}$$

۳

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Tuesday

سه شنبه ۱۴۴۶ شعبان ۱۹

۱۴۰۳/۱۱/۳۰

بهمن

$$\sqrt{r} |a n^r|$$

$$|u + (m-r) n^r|$$

$$\rightarrow n=a \rightarrow a^r + a m - r a + a^r = 0$$

-9

$$a^r + m - r + a = 0 \rightarrow \sqrt{r} |a n^r| \xrightarrow{n=a} a^r \rightarrow a = -1$$

$$\Rightarrow \text{عوضه} \rightarrow \frac{\sqrt{r} |n-1|}{n^r - 0 + 1} \xrightarrow{n=a} \frac{\sqrt{r}}{1} \leftarrow \text{عوضه}$$

9

$$\lim_{n \rightarrow 0^+} \frac{n^r + |x|}{n^r + a|n|} = \lim_{n \rightarrow 0^+} \frac{n^r + n}{n^r + a n} \xrightarrow{\text{HOP}} \lim_{n \rightarrow 0^+} \frac{r n^{r-1} + 1}{r n^{r-1} + a} = \frac{1}{a}$$

$$\lim_{n \rightarrow 0^-} \frac{n^r + |n|}{n^r + a|n|} = \lim_{n \rightarrow 0^-} \frac{n^r - n}{n^r - a n} \xrightarrow{\text{HOP}} \lim_{n \rightarrow 0^-} \frac{r n^{r-1} - 1}{r n^{r-1} - a} = \frac{1}{a}$$

$$\frac{1}{a} = \frac{r a - 1}{r a + r} \Rightarrow a = -\frac{1}{r} \pm r \quad \lim_{n \rightarrow 1} f(n) = \frac{1}{r}$$

$$\lim_{n \rightarrow -r} f(n) = \frac{1}{r}$$

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30