نام و نام خانوادگی ...امیرعلی تنهایی راد... پاسخنامه تشریحی تکلیف شماره ...19... کلاس ...دوازدهم تجربی B...

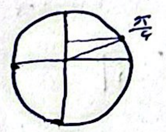
۱

$-2^+ \to 2[2^-]+a[0^+] = 2(1)=2$

$-2^- \to 2[2^+]+a[0^-] = 2(2)-a = 4-a \longrightarrow 4-a=2 \to a=2$

۲

$\lim_{x\to\frac{\pi}{6}^-}[2\sin x-1] = [0^-] = -1$



$\lim_{x\to\frac{\pi}{6}^-}\sin x = \frac{1}{2}^-$

۳

$8(\frac{-1}{2})^3-(\frac{-1}{2}) = 8(\frac{-1}{8})+\frac{1}{2} = -1+\frac{1}{2} = \frac{-1}{2}$ ~ داخل براکت عدد صحیح نیست و نیازی به دوشاخه کردن ندارد

$\lim_{x\to\frac{-1}{2}}[8x^3-x] = [\frac{-1}{2}]=-1$

۴

$\lim_{x\to(\frac{-1}{2})^-} \frac{10x+5+[12^-]}{16x\,[-8^+]} = \lim_{x\to(\frac{-1}{2})^-} \frac{10x+16}{16x+8} = \frac{11}{0^-} = -\infty$

۵

$\lim_{x\to1^+} \frac{\sin^2\pi x}{1+\cos\pi x} \xrightarrow[\text{Hop}]{\frac{0}{0}} \lim_{x\to1^+} \frac{2\cancel{\sin\pi x}\times\cos\pi x\times\cancel{\pi}}{-\cancel{\sin\pi x}\times\cancel{\pi}} = \lim_{x\to1^+} -2\cos\pi x$

$= -2\cos\pi = -2(-1)=2$

$$\lim_{x\to -1}\frac{\sqrt{2x+3}-\sqrt{3x+4}}{1+\sqrt[3]{x}} \xrightarrow{\frac{0}{0}} \frac{\sqrt{2x+3}-\sqrt{3x+4}}{1+\sqrt[3]{x}}\times\frac{\text{م}}{\text{م}}\times\frac{\text{ف}}{\text{ف}}=$$ 6

$$\lim_{x\to -1}\frac{2x+3-(3x+4)}{1+x}\times\frac{3}{2}=\lim_{x\to -1}\frac{2x+3-3x-4}{1+x}\times\frac{3}{2}=\cancel{\frac{-x-1}{1+x}}^{-1}\times\frac{3}{2}=-\frac{3}{2}$$

$$\lim_{x\to 1}\frac{2x-7\sqrt{x}+5}{2x-\sqrt{3x+1}} \xrightarrow[\text{Hop}]{\frac{0}{0}} \lim_{x\to 1}\frac{2-7\times\frac{1}{2\sqrt{x}}}{2-\frac{3}{2\sqrt{3x+1}}}=\frac{2-\frac{7}{2}}{2-\frac{3}{4}}=\frac{-\frac{3}{2}}{\frac{5}{4}}$$ 7

$$=\frac{-12}{10}=-1.2$$

$$\lim_{x\to 0}\frac{a+\sqrt{bx+c}}{x}=\frac{1}{4} \xrightarrow[\text{Hop}]{\frac{0}{0}} \lim_{x\to 0}\frac{\frac{b}{2\sqrt{bx+c}}}{1}=\frac{1}{4}\longrightarrow\frac{b}{2\sqrt{c}}=\frac{1}{4}$$ 8

$$4b=2\sqrt{c}\longrightarrow 2b=\sqrt{c}\longrightarrow 4b^2=c$$

$$a+\sqrt{c}=0\longrightarrow\sqrt{c}=-a\longrightarrow c=a^2$$

$$\Rightarrow a^2=4b^2\longrightarrow a=|2b|\qquad\frac{ab}{c}=\frac{|2b|\times b}{4b^2}=\frac{|2b^2|}{4b^2}$$

$$\Rightarrow\frac{2b^2}{4b^2}=\frac{1}{2}$$

$$(-2\pi)^+\to\frac{4+K\times -2}{0^+}=+\infty\longrightarrow -2K+4>0\longrightarrow 2K<4\longrightarrow K<2$$

$$(-2\pi)^-\to\frac{4+K\times -3}{0^-}=+\infty\longrightarrow -3K+4<0\longrightarrow 3K>4\longrightarrow K>\frac{4}{3}$$ 9

$$\frac{4}{3}<K<2\longrightarrow -2<-K<\frac{-4}{3}\longrightarrow [-K]=-2$$

$$\lim_{x\to 8}\frac{b\sqrt{2+\sqrt[3]{x}}-2b}{ax-b}\xrightarrow[\frac{0}{0},\ \text{Hop}]{\text{صورت صفر}}\lim_{x\to 8}\frac{\frac{8a}{2\sqrt{2+\sqrt[3]{x}}}\times\frac{1}{3\sqrt[3]{x^2}}}{a}=\frac{\frac{8a}{4}\times\frac{1}{12}}{a}=\frac{\frac{a}{6}}{\frac{a}{1}}=$$

$$x\to 8\ \Rightarrow\ 8a-b=0\longrightarrow 8a=b\qquad\qquad\frac{a}{6a}=\frac{1}{6}$$ 10