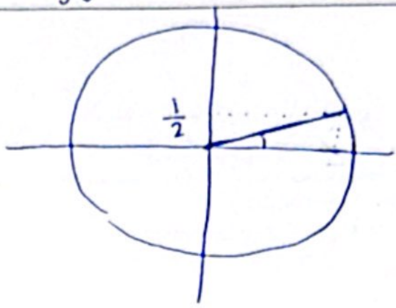
نام و نام خانوادگی ...دعا بیگی...... پاسخنامه تشریحی تکلیف شماره ..19.. کلاس ..دوازدهم تجربی B.......

۱	$-2^+:\ 2\left[\frac{2-(-2^+)}{2}\right]=2\left[\frac{4^-}{2}\right]=2[2^-]=2(1)=2$ $a\left[\frac{-2^++2}{3}\right]=a\left[\frac{0^+}{3}\right]=0$ $\lim_{x\to -2^+} f(x)=2$ $4-a=2\to a=2$ $-2^-:\ 2\left[\frac{2-(-2^-)}{2}\right]=2\left[\frac{4^+}{2}\right]=2[2^+]=2(2)=4$ $a\left[\frac{-2^-+2}{3}\right]=a\left[\frac{0^-}{3}\right]=-a$ $\lim_{x\to -2^-} f(x)=4-a$ $\left[\frac{a}{3}\right]=\left[\frac{2}{3}\right]=0$
۲	$\lim_{x\to(\frac{\pi}{6})^-}[2\sin x-1]\xrightarrow{\text{شکل}}\sin(\frac{\pi}{6})^-=\frac{1}{2}^-$ $[2(\frac{1}{2}^-)-1]=[1^--1]=[0^-]=-1$ 
۳	$\lim_{x\to-\frac{1}{2}}[8x^3-x]\to 8x^3=-1\to -1+[-x]=1+[\frac{1}{2}]=-1$
۴	$\lim_{x\to(\frac{1}{2})^-}\frac{10x-5+\left[\frac{3}{x^2}\right]}{16x-\left[-\frac{2}{x^2}\right]}=\frac{-5-5+\left[\frac{3}{\frac{1}{4}^+}\right]}{-8^--\left[-\frac{2}{\frac{1}{4}^+}\right]}=\frac{-10+[12^-]}{-8^--[-8^+]}=\frac{1}{0^+}=+\infty$
۵	$\lim_{x\to1^+}\frac{\sin^2\pi x}{[x]+\cos\pi x}\to[x]=[1^+]=1\to\lim_{x\to1^+}\frac{\sin^2\pi x}{1+\cos\pi}\to\frac{1-\cos^2\pi}{1+\cos\pi}=\frac{(1+\cos\pi)(1-\cos\pi)}{1+\cos\pi}$ $=1-\cos\pi\to1-(-1)=2$

$$\lim_{x\to -1} \frac{\sqrt{2x+3}-\sqrt{3x+4}}{1+\sqrt[3]{x}} \times \frac{\sqrt{2x+3}+\sqrt{3x+4}}{\sqrt{2x+3}+\sqrt{3x+4}} \times \frac{1-\sqrt[3]{x}+\sqrt[3]{x^2}}{1-\sqrt[3]{x}+\sqrt[3]{x^2}} =$$

$$= \frac{-\cancel{(x+1)}\left(1-\sqrt[3]{x}+\sqrt[3]{x^2}\right)}{\cancel{(x+1)}\left(\sqrt{2x+3}+\sqrt{3x+4}\right)} = \frac{-3}{2}$$ ۶

$$\lim_{x\to 1} \frac{2x-7\sqrt{x}+5}{2x-\sqrt{3x+1}} \times \frac{2x+\sqrt{3x+1}}{2x+\sqrt{3x+1}} = \frac{(2\sqrt{x}-5)(\sqrt{x}-1)(2x+\sqrt{3x+1})}{4x^2-3x-1} =$$

$$= \frac{(2\sqrt{x}-5)(\sqrt{x}-1)(2x+\sqrt{3x+1})}{(4x-1)(x-1)} = \frac{(2\sqrt{x}-5)\cancel{(\sqrt{x}-1)}(2x+\sqrt{3x+1})}{(4x-1)\cancel{(\sqrt{x}-1)}(\sqrt{x}+1)} \xrightarrow{x=1} \frac{(-3)(4)}{(3)(2)} = -2$$ ۷

$$\lim_{x\to 0} \frac{a+\sqrt{bx+C}}{x} = \frac{1}{4} \longrightarrow$$ چون مخرج صفر می‌شود پس صورت هم باید صفر بشود : $a+\sqrt{C}=0 \to \sqrt{C}=-a$

$$\frac{a+\sqrt{bx+C}}{x} \times \frac{a-\sqrt{bx+C}}{a-\sqrt{bx+C}} = \frac{a^2-bx-C}{x(a-\sqrt{bx+C})} \xrightarrow{a^2=C} \frac{-bx}{x(a-\sqrt{C})} = \frac{-b}{2a} = \frac{1}{4}$$ ۸

$$-4b = 2a = -2\sqrt{C} \to \frac{ab}{C} = \frac{a\times(-2a)}{a^2} = -\frac{2a^2}{2} = -2$$

$(-2\pi)^+$ $\quad 4+k\left[\frac{(-2\pi)^+}{\pi}\right] = 4+k\left[-2^+\right] = \frac{4-2k}{0^+} \to 4-2k>0 \to 4>2k \to 2>k$

$(-2\pi)^-$ $\quad 4+k\left[\frac{(-2\pi)^-}{\pi}\right] = 4+k\left[-2^-\right] = \frac{4-3k}{0^-} \to 4-3k<0 \to 4<3k \to \frac{4}{3}<k$ ۹

$$\frac{4}{3} < k < 2 \to -\frac{4}{3} > -k > -2 \to [-k] = -2$$

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