نام و نام خانوادگی ......[illegible]...... پاسخنامه تشریحی تکلیف شماره ...۱۹... کلاس ...۱۲A...

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$$x \Rightarrow -2 \begin{cases} \xrightarrow{-} 2\left[\frac{2-(-2^-)}{3}\right] + a\left[\frac{-2^- + 2}{3}\right]^{0^-} = 4-a \\ \xrightarrow{+} 2\left[\frac{2-(-2^+)}{3}\right] + a\left[\frac{-2^+ + 2}{3}\right]^{0^+} = 2 \end{cases} \Rightarrow 4-a = 2 \Rightarrow a=2$$

$$\left[\frac{a}{3}\right] = \left[\frac{2}{3}\right] = 0$$

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

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$$\lim_{x\to -\frac{1}{2}} [8x^3 - x] \Rightarrow x \Rightarrow -\frac{1}{2} \Rightarrow \left[8\times\frac{-1}{8} - \left(-\frac{1}{2}\right)\right] = \left[-\frac{1}{2}\right] \Rightarrow -1$$

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$$\lim_{x\to -\frac{1}{4}^-} \frac{10x - 5 + \left[\frac{3}{x^2}\right]}{16x - \left[-\frac{2}{x^2}\right]} \Rightarrow \begin{cases} \left[\frac{3}{\frac{1}{4}^+}\right] = [3\times 4^-] = 11 \\ \left[\frac{-2}{\frac{1}{4}^+}\right] = [-2\times 4^-] = -8 \end{cases} \Rightarrow \frac{10x+6}{16x+8} \xRightarrow{x\to -\frac{1}{4}^-}$$

$$\frac{+1}{0^-} = -\infty$$

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$$\lim \frac{\sin^2 \pi x}{[x]+\cos\pi x} \Rightarrow \frac{\sin^2\pi x}{1+\cos\pi x} \Rightarrow \frac{1-\cos^2\pi x}{1+\cos\pi x} \Rightarrow \frac{(1-\cos\pi x)\cancel{(1+\cos\pi x)}}{\cancel{1+\cos\pi x}} = 1-\cos\pi x \Rightarrow$$

$$x \Rightarrow 1^+ \Rightarrow 1-(-1) = 2$$

$(-x-1)=-(x+1)$ $\lim_{x\to -1} \frac{\sqrt{2x+3}-\sqrt{3x+4}}{1+\sqrt[3]{x}} \times \frac{(\sqrt{2x+3}+\sqrt{3x+4})}{\sqrt{2x+3}+\sqrt{3x+4}} \times \frac{(1-\sqrt[3]{x}+\sqrt[3]{x^2})}{(1-\sqrt[3]{x}+\sqrt[3]{x^2})} \Rightarrow \frac{(2x+3)-(3x+4)(1-\sqrt[3]{x}+\sqrt[3]{x^2})}{\cancel{(1+x)}(\sqrt{2x+3}+\sqrt{3x+4})}$ $\Rightarrow x\Rightarrow -1 \Rightarrow \frac{(-1)\ (3)}{2} \Rightarrow \frac{-3}{2}$	۶
$\lim_{x\to 1}\frac{2x-7\sqrt{x}+5}{2x-\sqrt{3x+1}} \Rightarrow$ هوپیتال $\Rightarrow \frac{2-7(\frac{1}{2\sqrt{x}})}{2-(\frac{3}{2\sqrt{3x+1}})} \xRightarrow{x=1} \Rightarrow \frac{\frac{-3}{2}}{\frac{5}{4}} = \frac{-3}{10}$ $\frac{-6}{5}$	۷
$\lim_{x\to 0}\frac{a+\sqrt{bx+c}}{x}=\frac{1}{4} \Rightarrow$ هوپیتال $\Rightarrow \frac{\frac{b}{2\sqrt{bx+c}}}{1} \xRightarrow{x=0} \frac{b}{2\sqrt{c}}=\frac{1}{4} \Rightarrow \frac{1}{2}=\frac{b}{\sqrt{c}}$ (1) $\hookrightarrow x\Rightarrow 0 \Rightarrow a+\sqrt{c}=0 \Rightarrow \sqrt{c}=-a$ (2) (1),(2) $\Rightarrow \frac{b}{-a}=\frac{1}{2}$ / $\frac{ab}{c} \Rightarrow \frac{a\times\frac{-a}{2}}{a^2} \Rightarrow$ $\frac{ab}{c}=\frac{-1}{2}$	۸
$\lim_{x\to -2\pi}\frac{4+k[\frac{x}{\pi}]}{\sin x}=+\infty \Rightarrow$ $+ \Rightarrow \frac{4+k[-2^+]}{\sin x^+} \Rightarrow \frac{4-2k}{0^+}=+\infty$; $- \Rightarrow \frac{4+k[-2^-]}{\sin x} \Rightarrow \frac{4-3k}{0^-}=+\infty$ $\Rightarrow$ $4-2k>0 \Rightarrow k<2$ (1) / $4-3k<0 \Rightarrow k>\frac{4}{3}$ (2) / $\frac{4}{3}<k<2 \Rightarrow$ $-2=[-k]$	۹
$\lim_{x\to 8}\frac{b\sqrt{2+\sqrt[3]{x}}-2b}{ax-b} \Rightarrow$ هوپیتال $\Rightarrow \frac{\frac{b(2+\sqrt[3]{x})}{2\sqrt{2+\sqrt[3]{x}}}}{a} \xRightarrow{x=8} \frac{\frac{4b}{4}}{a}=\frac{b}{a}$ (1) $\hookrightarrow 8a-b=0 \Rightarrow b=8a$ (2) $\Rightarrow$ (1),(2) $\Rightarrow \frac{8a}{a}=8$	۱۰