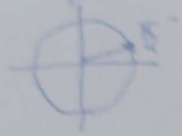
نام و نام خانوادگی ...... پاسخنامه تشریحی تکلیف شماره ...... کلاس ......

۲	$2\left[\frac{2-x}{2}\right]+a\left[\frac{x+3}{3}\right] \xrightarrow{-2^+} 2\left[\cancel{\frac{2-(-2^+)}{2}}\right]+a\left[\cancel{\frac{-2^++3}{3}}\right]=2$ $\xrightarrow{-2^-} 2\left[\cancel{\frac{2-(-2^-)}{2}}\right]+a\left[\cancel{\frac{-2^-+3}{3}}\right]=4-a$ $4-a=2 \Rightarrow a=2$ $\left[\frac{a}{3}\right]=\left[\frac{2}{3}\right]=0$
۲	$\lim_{x\to\frac{\pi}{6}^-}\left[2\sin x-1\right] \Rightarrow \lim\left[2\sin\frac{\pi}{6}^- -1\right] \Rightarrow \lim\left[2\left(\frac{1}{2}\right)^- -1\right]=$ $\lim\left[1^- -1\right]=\lim\left[0^-\right]=\boxed{-1}$ 
۳	$\lim_{x\to-\frac{1}{2}}\left[8x^3-x\right] \Rightarrow \lim\left[8\left(-\frac{1}{2}\right)^3-\left(-\frac{1}{2}\right)\right]=\lim\left[-1+\frac{1}{2}\right]=\left[-\frac{1}{2}\right]=\boxed{-1}$
۴	$\lim_{x\to(-\frac{1}{2})^-}\frac{10x-5+\left[\frac{3}{x^2}\right]}{14-\left[-\frac{2}{x^2}\right]}=\frac{\cancel{10x}-\cancel{5}+11}{14x+8}=\frac{1}{0^-}=\boxed{-\infty}$ $x<-\frac{1}{2}\to x^2>\frac{1}{4}\to\frac{1}{x^2}<4\Rightarrow\frac{3}{x^2}<12$ $\frac{-2}{x^2}>-8$
۵	$\lim_{x\to1^+}\frac{\sin^2\pi x}{[x]+\cos\pi x}=\frac{\sin^2\pi^+}{1+\cos\pi^+}=\frac{0^+}{1+(-1)^+}=\frac{0^+}{0^+}$ حد ندارد 

فرید غازی

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

$$= \lim_{x\to -1}\frac{-3-3x}{2+2x} \overset{Hop}{=} \Rightarrow \frac{-3}{2} = \boxed{-1.5}$$

$$\lim_{x\to 1}\frac{2x-7\sqrt{x}+5}{2x-\sqrt{3x+1}} = \lim_{x\to 1}\frac{(2x+5)-7\sqrt{x}}{2x-\sqrt{3x+1}} \times \frac{(2x+5)+7\sqrt{x}}{(2x+5)+7\sqrt{x}} \times \frac{2x+\sqrt{3x+1}}{2x+\sqrt{3x+1}}$$ ۷

$$\lim_{x\to 1}\frac{(4x^2+20x+25-49x)\times \cancel{4}^{2}}{(4x^2-3x-1)\times \cancel{14}} = \lim_{x\to 1}\frac{2(\cancel{(x-1)}(4x-25))}{7(\cancel{(x-1)}(4x+1))} = \frac{2\times -21}{7\times 5} = \frac{-6}{5}$$

$$\lim_{x\to 0}\frac{a+\sqrt{bx+c}}{x} = \frac{1}{4} \qquad a+\sqrt{c}=0 \Rightarrow a=-\sqrt{c}$$

$$\lim_{x\to 0}\frac{\sqrt{bx+c}-\sqrt{c}}{x} = \frac{1}{4} \Rightarrow \lim_{x\to 0}\frac{bx+c-c}{x\times 2\sqrt{c}} = \frac{1}{4} \Rightarrow \lim_{x\to 0}\frac{b\cancel{x}}{\cancel{x}\times 2\sqrt{c}} = \frac{1}{c}$$ ۸

$$b=\frac{\sqrt{c}}{2} \qquad \frac{ab}{c} = \frac{-\sqrt{c}\times\frac{\sqrt{c}}{2}}{c} = \frac{\frac{\cancel{c}}{2}}{\frac{\cancel{c}}{1}} = \boxed{-\frac{1}{2}} \qquad \frac{b}{2\sqrt{c}} = \frac{1}{4} \Rightarrow \frac{b}{\sqrt{c}} = \frac{1}{2}$$

$$\lim_{x\to -2\pi}\frac{4+k\left[\frac{x}{\pi}\right]}{\sin x} = +\infty \qquad [-k] = \left[-\frac{4}{3}>k>-2\right] = \boxed{-2}$$

$$\lim_{x\to -2\pi^+}\frac{4+k(-2)}{0^+} = +\infty \Rightarrow 4-2k>0 \Longrightarrow k<2$$ ۹

$$\frac{4}{3}<k<2$$

$$\lim_{x\to -2\pi^-}\frac{4+k(-3)}{0^-} = +\infty \Rightarrow 4-3k<0 \Rightarrow k>\frac{4}{3}$$

$$\lim_{x\to 8}\frac{b\sqrt{2+\sqrt[3]{x}}-2b}{ax-b} \qquad 8a-b=0 \Rightarrow b=8a$$

$$\lim_{x\to 8}\frac{8\cancel{a}\sqrt{2+\sqrt[3]{x}}-16\cancel{a}}{\cancel{a}x-8\cancel{a}} = \lim_{x\to 8}\frac{8\sqrt{2+\sqrt[3]{x}}-16}{x-8} = \lim_{x\to 8} 8\,\frac{\sqrt{2+\sqrt[3]{x}}-2}{x-8}$$ ۱۰

$$\lim_{x\to 8}\frac{\cancel{8}(2+\sqrt[3]{x}-4)}{(x-8)\times\cancel{4}} \Rightarrow \lim_{x\to 8}\frac{\sqrt[3]{x}-2}{x-8} = \frac{\cancel{\sqrt[3]{x}-2}}{\cancel{(\sqrt[3]{x}-2)}(\sqrt[3]{x^2}+2\sqrt[3]{x}+4)} = \boxed{\frac{1}{12}}$$