نام و نام خانوادگی .... پاسخنامه تشریحی تکلیف شماره ..۱۹.. کلاس ....

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

$$\Rightarrow 4 - a = 2 \Rightarrow a = 2$$

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

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$$\lim_{x\to\left(\frac{\pi}{6}\right)^-} [2\sin x - 1] \xrightarrow{\sin\frac{\pi}{6} = \frac{1}{2}^-} [1^- - 1] = [0^-] = -1$$

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

چون داخل براکت عدد صحیح نمی‌شود نیازی به دو طرفه ای کردن ندارد

$$= \left[-1 - \left(-\frac{1}{2}\right)\right] = \left[-\frac{1}{2}\right] = -1$$

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$$x \to \left(-\frac{1}{2}\right)^- \Rightarrow x < -\frac{1}{2} \Rightarrow x^2 > \frac{1}{4} \Rightarrow \frac{1}{x^2} > 4 \Rightarrow \frac{3}{x^2} > 12$$

$$\Rightarrow \frac{-3}{x^2} < -8$$

$$\Rightarrow \left[\frac{3}{x^2}\right] = 12 \quad \wedge \quad \left[\frac{-3}{x^2}\right] = -9$$

$$\frac{10\left(-\frac{1}{2}\right) - 5 + 12}{16\left(-\frac{1}{2}\right) - (-9)} = \frac{2}{1} = 2$$

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$$\lim_{x\to 1^+} \frac{\sin^2 \pi x}{\underbrace{[x]}_{1} + \cos \pi x} \Rightarrow \lim_{x\to 1^+} \frac{1 - \cos^2 \pi x}{1 + \cos \pi x} = 1 - \cos \pi x =$$

$$(1 - \cos \pi x)(1 + \cos \pi x)$$

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

$$[1^+] = 1$$

$$\lim_{x\to -1}\frac{\sqrt{2x+3}-\sqrt{3x+4}}{1+\sqrt[3]{x}} \overset{hop}{\Rightarrow} = \frac{\frac{2}{2\sqrt{2x+3}}-\frac{3}{2\sqrt{3x+4}}}{\frac{1}{3\sqrt[3]{x^2}}}$$ ۶

$$= \frac{1-\frac{3}{2}}{\frac{1}{3}} = \frac{-\frac{1}{2}}{\frac{1}{3}} = -\frac{3}{2} = -1{,}5$$

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

$$\lim_{x\to 0}\frac{a+\sqrt{bx+c}}{x} = \frac{1}{4} \Rightarrow a+\sqrt{bx+c}=0$$ ۸

$$\Rightarrow a=\sqrt{c}$$

$$H \quad \frac{b}{\sqrt{bx+c}} = \frac{1}{4} \Rightarrow b = \frac{1}{4}\sqrt{c} \qquad \frac{ab}{c} = \frac{\sqrt{c}\times\frac{1}{4}\sqrt{c}}{c} = \frac{1}{4}$$

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