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

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$x \to -2^+ \longrightarrow 2\left[\frac{2-x}{2}\right] + a\left[\frac{x+2}{3}\right] \longrightarrow 2+0=2$

$x \to -2^- \longrightarrow 2\left[\frac{2-x}{2}\right] + a\left[\frac{x-2}{3}\right] \to 4-a$.

$\therefore$

$2 = 4-a \longrightarrow \boxed{a=2} \longrightarrow \left[\frac{2}{4}\right] = 0$

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

$[0^-] = -1$

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

$\left(-\frac{1}{2}\right)^+ \longrightarrow \left[8x^3 - x\right] \to \left[x(8x^2-1)\right] \to -1$

$\left(-\frac{1}{2}\right)^- \longrightarrow \left[8x^3 - x\right] \to \left[x(8x^2-1)\right] \to -1$

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$\lim_{x\to\left(-\frac{1}{2}\right)^-} \frac{10x-5+\left[\frac{3}{8x^3}\right]}{16x-\left[-\frac{2}{x^3}\right]} \longrightarrow \frac{10x-5+11}{16x-8} \to \frac{10x+6}{16x-8}$

$\xrightarrow{x=-\frac{1}{2}} \frac{-5+6}{-16} = \frac{1}{-16} = -\frac{1}{16}$

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$\lim_{x\to 1^+} \frac{\sin^2 \pi x}{[x] + \cos\pi x} \longrightarrow \frac{\sin^2 \pi x}{1+\cos\pi x} \longrightarrow$

$\longrightarrow \frac{4\sin^2\left(\frac{\pi x}{2}\right)\cancel{\cos^2\left(\frac{\pi x}{2}\right)}}{2\cancel{\cos^2\left(\frac{\pi x}{2}\right)}} = 2\sin^2\left(\frac{\pi x}{2}\right) \longrightarrow 2\times 1 = 2$

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

$$\longrightarrow \frac{2x+3-3x-4}{1+x} \longrightarrow \frac{-x-1}{x+1} \longrightarrow \frac{-1(x+1)}{x+1} = -1$$

$$\lim_{x\to 1} \frac{2x-7\sqrt{x}+5}{2x-\sqrt{3x+1}} \xrightarrow{\text{Hop}} \frac{2-\frac{7}{2}}{2-\frac{3}{2\sqrt{3x+1}}}$$

$$\frac{2-\frac{7}{2}}{2-\frac{3}{4}} \longrightarrow \frac{-\frac{3}{2}}{\frac{5}{4}} = \frac{-12}{10} = \frac{-6}{5}$$ ۷

$$\lim_{x\to 0} \frac{a+\sqrt{bx+c}}{x} = \frac{1}{4} \longrightarrow \frac{0}{0} \text{ تا} \longrightarrow a+\sqrt{bx+c} = 0 \xrightarrow{x=0} a+\sqrt{c}=0 \to a=-\sqrt{c}$$

$$\xrightarrow{\text{هپ}} \frac{\frac{b}{2\sqrt{bx+c}}}{1} = \frac{1}{4} \longrightarrow \frac{b}{2\sqrt{bx+c}} = \frac{1}{4} \xrightarrow{x=0} \frac{b}{2\sqrt{c}} = \frac{1}{4} \to c=4b^2$$ ۸

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

$$\frac{ab}{c} \longrightarrow \frac{-2b\times b}{4b^2} = \frac{-1}{2}$$

$$\lim_{x\to -2\pi} \frac{4+k\left[\frac{x}{\pi}\right]}{\sin x}$$

$$\nearrow -2\pi^+ \longrightarrow \frac{4-2k}{0^+} = -\infty \to 4-2k>0$$

$$\searrow -2\pi^- \longrightarrow \frac{4-3k}{0^-} = +\infty \to 4-3k<0$$

$$\longrightarrow 4>2k \longrightarrow 2>k$$

$$\to 4<3k \longrightarrow \frac{4}{3}<k \Bigg\} \longrightarrow \frac{4}{3}<k<2 \longrightarrow [-k] = -2$$ ۹