نام و نام خانوادگی ......دانیال محبت........ پاسخنامه تشریحی تکلیف شماره ......۱۹..... کلاس دوازدهم ریاضی A......

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$f(x) = 2\left[\frac{2-x}{2}\right] + a\left[\frac{x+2}{3}\right]$

$\lim_{x\to -2}$: $(-2)^+ \to 2\left[\frac{4^-}{2}\right] + a\left[\frac{0^+}{3}\right] = 2$; $(-2)^- \to 2\left[\frac{4^+}{2}\right] + a\left[\frac{0^-}{3}\right] = 4-a$

$4 - a = 2 \to \boxed{a=2}$

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

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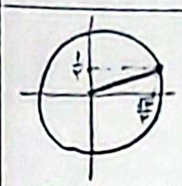

$\lim_{x\to(\frac{\pi}{6})^-}[2\sin x - 1] = [2(\tfrac{1}{2})^- - 1] = [1^- - 1] = [0^-] = \boxed{-1}$

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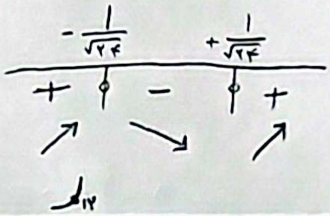
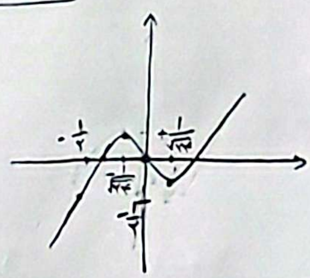
$\lim_{x\to -\frac{1}{2}}[8x^3 - x] =$ $(-\tfrac{1}{2})^+ \to \boxed{[(-\tfrac{1}{2})^+] = -1}$; $(-\tfrac{1}{2})^- \to \boxed{[(-\tfrac{1}{2})^-] = -1}$

$\boxed{\text{حد} = -1}$

$y = 8x^3 - x$

$y' = 24x^2 - 1$





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$\lim_{x\to(-\frac{1}{2})^-}\frac{10x - 5 + [\frac{3}{x^2}]}{16x - [-\frac{2}{x^2}]} = \frac{10x - 5 + 11}{16x - (-8)} = \frac{10x+6}{16x+8} = \frac{-5+6}{(-8)^- + 8} = \frac{1}{0^-} = \boxed{-\infty}$

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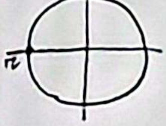
$\lim_{x\to 1^+}\frac{\sin^2\pi x}{[x] + \cos\pi x} = \frac{\sin^2\pi x}{1+\cos\pi x} = \frac{1-\cos^2\pi x}{1+\cos\pi x} = 1 - \cos\pi x = 1 - \cos\pi^+ = \cancel{1-1=0}$

$1-(-1) = 2$



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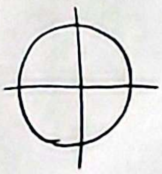
$\lim\limits_{x\to -1} \dfrac{\sqrt{2x+3}-\sqrt{3x+4}}{1+\sqrt[3]{x}} \times \dfrac{\sqrt{2x+3}+\sqrt{3x+4}}{\sqrt{2x+3}+\sqrt{3x+4}} \times \dfrac{1-\sqrt[3]{x}+\sqrt[3]{x^2}}{1-\sqrt[3]{x}+\sqrt[3]{x^2}}$ $= \dfrac{-(x+1)}{1+x} \times \dfrac{1-\sqrt[3]{x}+\sqrt[3]{x^2}}{\sqrt{2x+3}+\sqrt{3x+4}} = -1 \times \dfrac{3}{2} = \boxed{-\dfrac{3}{2}}$ $\dfrac{3}{2}$ ۱٫۵	۶
$\lim\limits_{x\to 1} \dfrac{2x-7\sqrt{x}+5}{2x-\sqrt{3x+1}} = \dfrac{0^{\sim}}{0^{\sim}} \xrightarrow{hop} \dfrac{2-\frac{7}{2\sqrt{x}}}{2-\frac{3}{2\sqrt{3x+1}}} = \dfrac{2-\frac{7}{2}}{2-\frac{3}{4}} = \dfrac{-\frac{3}{2}}{\frac{5}{4}} = \boxed{-\dfrac{6}{5}}$ ۲	۷
$\lim\limits_{x\to 0} \dfrac{a+\sqrt{bx+c}}{x} = \dfrac{0^{\sim}}{0^{\sim}} = \dfrac{1}{4} \xrightarrow{hop} \dfrac{\frac{b}{2\sqrt{bx+c}}}{1} = \dfrac{b}{2\sqrt{c}} = \dfrac{1}{4} \to b = \dfrac{\sqrt{c}}{2}$ $a+\sqrt{bx+c} \xrightarrow{x=0} a+\sqrt{c} = 0 \to a = -\sqrt{c}$ $\dfrac{ab}{c} = \dfrac{-\sqrt{c}\times\frac{\sqrt{c}}{2}}{c} = \boxed{-\dfrac{1}{2}}$ ۲	۸
$\lim\limits_{x\to -2\pi} \dfrac{4+k[\frac{x}{\pi}]}{\sin x}$ ($[\frac{x}{\pi}] \to -2$) $\xrightarrow{(-2\pi)^+} \dfrac{4-2k}{\sin(-2\pi)^+} = \dfrac{4-2k}{0^+} = +\infty \to 4-2k>0 \to k<2$ $\xrightarrow{(-2\pi)^-} \dfrac{4-3k}{\sin(-2\pi)^-} = \dfrac{4-3k}{0^-} = +\infty \to 4-3k<0 \to \dfrac{4}{3}<k$  $\dfrac{4}{3}<k<2 \to -\dfrac{4}{3} > -k > -2 \to \boxed{[-k] = -2}$ ۲	۹
$\lim\limits_{x\to 8} \dfrac{b\sqrt{2+\sqrt[3]{x}}-2b}{ax-b} = \dfrac{2b-2b}{8a-b} = \dfrac{0^{\sim}}{0^{\sim}} = k \in \mathbb{R}$ $8a = b$ $\xrightarrow{hop} \dfrac{b\times\frac{\frac{1}{3\sqrt[3]{x^2}}}{2\sqrt{2+\sqrt[3]{x}}}}{a} = \dfrac{b\times\frac{\frac{1}{3\times 4}}{2\times 2}}{a} = \dfrac{\overset{8a}{b}}{a}\times\dfrac{1}{48} = 8\times\dfrac{1}{48} = \boxed{\dfrac{1}{6}}$ ۲	۱۰