(1.) $\lim \ b\sqrt{2+\dots}$ ...

تمرین سوالات

(1) $4\left[\frac{2-x}{2}\right]+a\left[\frac{x+2}{4}\right]$

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

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

$\boxed{a=2}$

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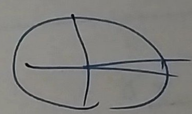
(2) $\lim_{x\to(\frac{\pi}{6})^-}\left[2\sin x-1\right]$



$[1^- - 1] = \boxed{-1}$

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

$\left[-1+\frac{1}{2}\right]=\boxed{-1}$ $\qquad \left(-\frac{1}{2}\right)^3=-\frac{1}{8}$ $\qquad \left(8\times-\frac{1}{8}\right)=-1$

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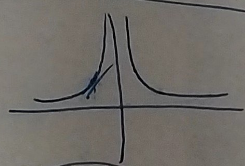
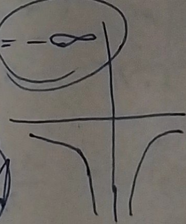
(4) $\lim_{x\to(\frac{1}{2})^-}\frac{10x-5+\left[\frac{3}{x^2}\right]}{14x-\left[-\frac{2}{x^2}\right]}$



$\frac{(+)}{0^-}=\boxed{-\infty}$

$\frac{5-5+[12^-]}{-8+9}$



(1.)

$$\lim_{x \to 8} \frac{b\sqrt{2+\sqrt[3]{x}} - 2b}{\frac{b}{8}x - b}$$

$8a = b$

$$b\,\frac{\frac{\frac{1}{3\sqrt[3]{x^2}}}{2\sqrt{4}}}{\frac{b}{8}} = \frac{\frac{1}{48}}{\frac{1}{8}} = \frac{1}{6}$$

[illegible]

محمد سلطانی

(۵) $\lim_{x\to 1^+} \dfrac{\sin^۲ \pi x}{[x]+\cos \pi x} = \dfrac{\sin^۲ \pi x}{1+\cos \pi x} = \dfrac{1-\cos^۲}{1+\cos} = 1-\cos \pi x = ۲$

$\frac{1}{۶}$

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(۶) $\lim_{x\to -1} \dfrac{\sqrt{۲x+۳}-\sqrt[۳]{۲x+۴}}{1+\sqrt[۳]{x}} \Rightarrow \dfrac{\frac{۲}{۲\sqrt{}}-\frac{۲}{۳\sqrt[۳]{}}}{\frac{1}{۳\sqrt[۳]{x^۲}}} = \dfrac{\frac{-1}{۳}}{\frac{1}{۳}} = -\dfrac{۳}{۳}$

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(۷) $\lim_{x\to 1} \dfrac{۲x-۷\sqrt{x}+۵}{۲x-\sqrt{۳x+1}} \quad \dfrac{۲-۷\left(\frac{1}{۲\sqrt{x}}\right)}{۲-\frac{۳}{۲\sqrt{۳x+1}}} = \dfrac{-\frac{۳}{۲}}{\frac{۵}{۴}} = \dfrac{-۶}{۵}$

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(۸) $\lim_{x\to 0} \dfrac{a+\sqrt{bx+c}}{x} = \dfrac{1}{۴} \quad (a=-۲b,\ c=۴b^۲)$

$\dfrac{\frac{b}{۲\sqrt{bx+c}}}{1} = \dfrac{1}{۴}$

$۲b=\sqrt{c}$

$۴b^۲=c$

$a=-\sqrt{۴b^۲}$

$a=-۲b$

$\dfrac{-۲b\times b}{۴b^۲} = -\dfrac{1}{۲}$

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(۹) $\lim_{x\to -۲\pi^+} \dfrac{۴+k\left[\frac{x}{\pi}\right]}{\sin x} = +\infty$

$\dfrac{-۲\pi}{\pi} = -۲ \quad (-۲)$

$\Rightarrow k=۲$

$\lim_{x\to -۲\pi} \quad \dfrac{۴}{۲} < k < ۲ \quad \to [-k] = -۲$

Galaxy A23