

$$f(x) = \begin{cases} \frac{p-x}{p} + a \left[\frac{x+p}{p} \right] & x > -p \\ \frac{p-x}{p} > 1 \text{ و } \frac{x+p}{p} < 0 \end{cases} \quad \lim_{x \rightarrow -p^+} f(x) = \frac{p-x}{p} \Big|_{x=-p^+} + a \left[\frac{0^+}{p} \right] = (p)$$

$$\lim_{x \rightarrow -p^-} f(x) = \frac{p-x}{p} \Big|_{x=-p^-} + a \left[\frac{0^-}{p} \right] = (f-a)$$

$$\left[\frac{a}{p} \right] = 0 \quad \checkmark$$

$$a = p \quad \checkmark \quad f-a = p$$

چون در $x = -p$ دارد بنابراین در $x = -p$ راست و چپ برابر باشد

$$\lim_{x \rightarrow (\frac{\pi}{4})^-} [p \sin x - 1] \quad \text{طبق} \quad \begin{matrix} \text{نقطه} \\ \text{نقطه} \end{matrix} \quad = \lim_{x \rightarrow (\frac{\pi}{4})^-} [0^-] = (-1) \quad \checkmark$$

$x < \frac{\pi}{4} \rightarrow \sin x < \frac{1}{2} \rightarrow p \sin x < 1 \rightarrow p \sin x - 1 < 0$

$$\lim_{x \rightarrow -\frac{1}{p}} [p x^p - x] = \lim_{x \rightarrow -\frac{1}{p}} \left[p \left(-\frac{1}{p} \right)^p - \left(-\frac{1}{p} \right) \right] = (-1) \quad \checkmark$$

$\left(-\frac{1}{p} \right) \rightarrow$ جواب درستی نیست $\rightarrow$ نیاز به بررسی چپ و راست x

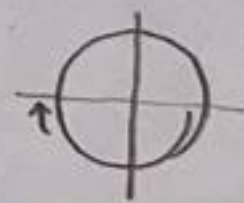
$$\lim_{x \rightarrow (-\frac{1}{p})^-} \frac{\log x - \omega + \left[\frac{p}{x^p} \right]}{14x - \left[-\frac{p}{x^p} \right]} \quad \text{طبق} \quad = \lim_{x \rightarrow (-\frac{1}{p})^-} \frac{1}{0} = (-\infty) \quad \checkmark$$

$$x < -\frac{1}{p} \rightarrow x^p > \frac{1}{p} \rightarrow \frac{p}{x^p} < 1p \quad \text{صورت} \quad \frac{1}{0^-} \rightarrow \log \left(-\frac{1}{p} \right) - \omega + 11 = 1 \quad \checkmark$$

$$\left[-\frac{p}{x^p} \right] > -1 \quad \left\{ \begin{array}{l} 14x - \left[-\frac{p}{x^p} \right] = 14x + 1 < 0 \quad \checkmark \\ 14x < -1 \end{array} \right.$$

$$\lim_{x \rightarrow 1^+} \frac{\sin^p \pi x}{[x] + \cos \pi x} = \lim_{x \rightarrow 1^+} \frac{(\sin^p \pi x)}{(1 + \cos \pi x)(1 - \cos \pi x)} = \lim_{x \rightarrow 1^+} \frac{1}{1 - \cos^p \pi x} = (p) \quad \checkmark$$

$1 - \cos^p \pi x$



$$\lim_{x \rightarrow -1} \frac{(\sqrt{px+p} - \sqrt{px+p}) (\sqrt{px+p} + \sqrt{px+p}) (1 + \sqrt{x^p} - \sqrt{x})}{(1 + \sqrt{x}) (\sqrt{px+p} + \sqrt{px+p}) (1 + \sqrt{x^p} - \sqrt{x})} = \frac{(\sqrt{px+p} - \sqrt{px+p}) (1 + \sqrt{x^p} - \sqrt{x})}{(1+x) (\sqrt{px+p} + \sqrt{px+p})}$$

$$= - \frac{(1+1+1)}{(1+1)} = \left(-\frac{p}{p} \right) \quad \checkmark$$

$$\lim_{x \rightarrow 1} \frac{px - \sqrt{px+1} + \omega}{px - \sqrt{px+1}}$$

$$\xrightarrow{\text{مشتق}} \frac{p - \frac{1}{2\sqrt{px+1}}}{p - \frac{1}{2\sqrt{px+1}}} = \left(-\frac{4}{\omega}\right) \checkmark$$

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$$\lim_{x \rightarrow 0} \frac{a + \sqrt{bx+c}}{x} = \frac{1}{r}$$

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$$\rightarrow a + \sqrt{c} = 0 \rightarrow -a = \sqrt{c}$$

$$\hookrightarrow \frac{b}{r\sqrt{c}} = \frac{1}{r} \rightarrow rb = \sqrt{c}$$

$$\frac{a \times b}{c} = -\frac{c}{rc} \pm \left(-\frac{1}{r}\right) \checkmark$$

تابع صفر صفر بوده که سازه شده است

$$\lim_{x \rightarrow -r\pi} \frac{r + k \left[\frac{x}{\pi}\right]}{\sin x} = +\infty$$

$$\frac{r}{r} < k < r$$

$$\rightarrow -r < -k < -\frac{r}{r}$$

$$[-k] = (-r) \checkmark$$

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$$x > -r \rightarrow x > -r\pi \rightarrow \left(\frac{x}{\pi}\right) > -r$$

$$\hookrightarrow \frac{r + k \left[-r\right] - r}{0^+} > 0 \rightarrow \begin{matrix} rk < r \\ k < r \end{matrix}$$

$$x < -r \rightarrow x < -r\pi \rightarrow \left(\frac{x}{\pi}\right) < -r$$

$$\hookrightarrow \frac{r + k \left[-r\right] - r}{0^-} < 0 \rightarrow rk > \frac{r}{r}$$

$$\lim_{x \rightarrow \infty} \frac{b \sqrt{r + \sqrt{x}} - rb}{ax - b}$$

$$\begin{aligned} \Lambda a + b &= 0 \\ b &= -\Lambda a \end{aligned}$$

$$\begin{aligned} \Lambda a - b &= 0 \\ b &= \Lambda a \end{aligned}$$

$$\xrightarrow{\text{مشتق}} \frac{-\Lambda a \times \frac{1}{2\sqrt{x}}}{\Lambda a} = \frac{\Lambda}{r\Lambda} = \left(\frac{1}{4}\right)$$

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