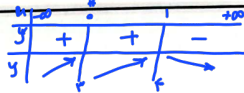
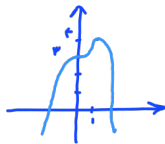


حردواند

الف) $\lim_{x \rightarrow 1} [f(x^2 - f(x) + x^2)] \rightarrow \lim_{x \rightarrow 1} [x^2] = 1$
 $y = f(x^2 - f(x) + x^2) \rightarrow y' = 11x^2 - 11x^2 \xrightarrow{y=0} 11x^2(1-x) = 0 \rightarrow \begin{cases} x=0 \\ x=1 \end{cases}$



ب) $\lim_{x \rightarrow 0} [f(x^2 - f(x) + x^2)] = \begin{cases} \lim_{x \rightarrow 0^+} [x^2] = 1 \\ \lim_{x \rightarrow 0^-} [x^2] = 1 \end{cases}$



الف) $\lim_{n \rightarrow \pi} \frac{|\sin n|}{\sin n} = \lim_{n \rightarrow \pi} \frac{\sin n}{\sin n} = \lim_{n \rightarrow \pi} \frac{-\sin n}{\sin n} = 1$

$= \lim_{n \rightarrow \pi} \frac{-1}{-1} = \frac{-1}{-1} = 1$ ✓

$\lim_{n \rightarrow \pi} \frac{|\sin n|}{\sin n} = \frac{\sin n}{\sin n} = \frac{1}{1} = 1$

در نظر

الف) $\lim_{n \rightarrow \pi} \frac{|x^2 - 1|}{x^2 - 1}$

$\lim_{n \rightarrow \pi} \frac{-x^2 + 1}{x^2 - 1} \rightarrow \lim_{n \rightarrow \pi} \frac{-x^2}{x^2} = -1$ ✓

$\lim_{n \rightarrow \pi} \frac{-x^2}{x^2} = \frac{-1}{1} = -1$ ✓

$\lim_{n \rightarrow \pi} \frac{|x^2 - 1|}{x^2 - 1} = \frac{x^2 - 1}{x^2 - 1} = 1$

الف) $\lim_{n \rightarrow 0^+} \sqrt{n - 2\sqrt{n}} = \sqrt{n - 0} = \sqrt{0} = 0$

$\lim_{n \rightarrow 0^-} \sqrt{n - 2\sqrt{0}} = \sqrt{0} = 0$ ✓

در نظر

الف) $\lim_{n \rightarrow 0^+} \sqrt{n - 2\sqrt{n}} = \sqrt{0} = 0$

$\lim_{n \rightarrow 0^-} \sqrt{n - 2\sqrt{0}} = \sqrt{0} = 0$ ✓

در نظر

در نظر

الف) $\lim_{n \rightarrow \pi} \frac{x^2 - 1}{x - 1} = 1$

$\lim_{n \rightarrow \pi} \frac{x^2 - 1}{x - 1} \xrightarrow{\text{h.o.p.}} \frac{2x}{1} = 2$ ✓

الف) $\lim_{n \rightarrow 0} \frac{(-1)^{\lfloor \sin n \rfloor}}{x^2 - n^2} = \frac{-1}{0} = -\infty$ ✓

در نظر

الف) $f' = f(x^2) - f(x) = -1 + 1 = 0$



الف) $f' = 10x^2 - 10x = 10x(x - 1)$

