

نام و نام خانوادگی پایه شماره کلاس پاسخنامه تشریحی تکلیف شماره ۱.۸.۱ کلاس $\frac{1}{2}$...

$$\lim_{n \rightarrow 2^+} \frac{2n+5}{n+1} \Rightarrow \frac{9}{3} = 3$$

(الف)

$$\lim_{n \rightarrow 2^-} \frac{2n+5}{n+1} \Rightarrow \frac{9}{3} = 3$$

(ب)

$$\lim_{n \rightarrow 2} \frac{2n+5}{n+1} \Rightarrow \frac{9}{3} = 3$$

(ج)

$$\lim_{n \rightarrow 0} \frac{-2n+7}{n+2} \Rightarrow \frac{7}{2} \Rightarrow +\infty$$

(د)



$$\lim_{n \rightarrow \infty} \{n\} - 2 \Rightarrow 1 - 2 = -1$$

(الف)

$$\lim_{n \rightarrow 1^+} \{n-2\} \Rightarrow [1.0^+] \Rightarrow 0$$

(ب)

$$\lim_{n \rightarrow 1^-} \{n-2\} \Rightarrow [1.0^-] \Rightarrow -1$$

(ج)

$$\lim_{n \rightarrow 1} \{n-2\} \Rightarrow [1.0] \Rightarrow -1$$

(د)

$$\lim_{n \rightarrow 2^-} \frac{3\{n\}+1}{2} \Rightarrow \frac{4+1}{2} = \frac{5}{2}$$

(الف)

$$\lim_{n \rightarrow 2^-} \{n\} \Rightarrow [2^-] \Rightarrow 1$$

(ب)

$$\left[\lim_{n \rightarrow 2} \frac{3n+1}{2} \right] \rightarrow \frac{7}{2} = [3.5] = 3$$

(ج)

$$\left[\lim_{n \rightarrow 2} \frac{3n+1}{2} \right] \rightarrow \frac{7}{2} = [3.5] = 3$$

(د)

$$\lim_{n \rightarrow 1} \frac{n-2}{n^2-4n+5} \Rightarrow \frac{-1}{0} \Rightarrow \left. \begin{array}{l} 1^+ \Rightarrow \frac{-1}{0^+} \Rightarrow +\infty \\ 1^- \Rightarrow \frac{-1}{0^-} \Rightarrow -\infty \end{array} \right\} \text{صندارد}$$

(الف)

$$\lim_{n \rightarrow 3} \frac{-1}{0} \Rightarrow \left. \begin{array}{l} 3^+ \Rightarrow \frac{-1}{0^+} \Rightarrow -\infty \\ 3^- \Rightarrow \frac{-1}{0^-} \Rightarrow +\infty \end{array} \right\} \left[-\infty \right] \Rightarrow \text{بالاتر}$$

(ب)

$$\lim_{n \rightarrow 3} [\sqrt{n}] - [n^2] \Rightarrow 1.73 - 9 = -7.27 \Rightarrow -8$$

(الف)

$$\lim_{n \rightarrow \frac{1}{2}} \left[\frac{-1}{n^2} \right] \rightarrow \left[\frac{-1}{\frac{1}{4}} \right] \Rightarrow [-4] \Rightarrow [-1.7] \Rightarrow -2$$

(ب)

الف) مشتق میگیریم $\rightarrow 12x^2 - 12x^3 = 24x - 36x^2$ ب) مشتق میگیریم $\rightarrow 12x^2 - 12x^3 = 24x - 36x^2$ ج) $\lim_{x \rightarrow 1} [2x^3 - 4x^2 + 5] \rightarrow [2 - 4 + 5] = 3$ د) $\lim_{x \rightarrow 1} [2x^3 - 4x^2 + 5] \rightarrow 3$	6
الف) $\lim_{x \rightarrow 2} \frac{x^2 - 1}{x^2 - 2} \rightarrow \frac{(x-1)(x+1)}{(x-2)(x+2)} \Rightarrow \frac{x^2 + x - 1}{x^2 + 2x - 2}$ ب) $\lim_{x \rightarrow \pi} \frac{\sin x}{\sin 2x} \Rightarrow \frac{-1}{2 \cos \pi} \Rightarrow \frac{-1}{-2} = \frac{1}{2}$ ج) $\lim_{x \rightarrow \pi} \frac{\sin x}{\sin 2x} \Rightarrow \frac{1}{2 \cos \pi} \Rightarrow \frac{1}{-2} = -\frac{1}{2}$	7
الف) $\lim_{x \rightarrow \frac{\pi}{2}} \frac{x}{x} \rightarrow \frac{\pi}{2} \rightarrow \frac{\pi}{2}$ ب) $\lim_{x \rightarrow \frac{\pi}{2}} \frac{x}{x} \rightarrow \frac{\pi}{2} \rightarrow \frac{\pi}{2}$ ج) $\lim_{x \rightarrow 0^+} \sqrt{x} \rightarrow 0$ د) $\lim_{x \rightarrow 0^-} \sqrt{x} \rightarrow 0$	8
الف) مشتق میگیریم $\rightarrow \sin x \rightarrow \cos x$ در $x = 0$ $\rightarrow 1$ ب) $\lim_{x \rightarrow 0^+} \frac{(-1)^{[x]}}{x^2 - 1} \rightarrow \frac{1}{0^-} \rightarrow -\infty$ ج) $\lim_{x \rightarrow 2} \frac{x^2 - [x^2]}{x - [x]} \rightarrow \frac{2 - [2]}{2 - [2]} = \frac{0}{0}$	9
الف) $y = 15x^2 - 15x^3 \Rightarrow 15x^2(1 - x)$ ب) $y = 15x^2 - 15x^3 \Rightarrow 15x^2(1 - x)$	10