

نام و نام خانوادگی t / بارنابی پاسخنامه تشریحی تکلیف شماره ۲: کلاس دانش آموز: A

$\lim_{n \rightarrow 2} \frac{1}{0^+} = -\infty$
 منبج باید ریشه
 تفاضل با ۰ باشد
 $\Rightarrow (n-2)^2 = n^2 - \epsilon n + \epsilon$
 $a = -\epsilon \quad b = \epsilon \quad a+b = 0$ ✓

$\lim_{n \rightarrow \sqrt{e}} \frac{\sqrt[3]{e}}{0^+} = +\infty$
 ریشه شصت
 $\delta = -a = 2\sqrt[3]{e} \Rightarrow a = -2\sqrt[3]{e}$
 $\rho = b = \sqrt[3]{e} \wedge \sqrt[3]{e} = 2\sqrt[3]{e}$
 $\left(\frac{\sqrt[3]{e}}{-2\sqrt[3]{e}}\right)^2 = \left(\frac{-1}{2}\right)^2 = -1$ ✓

$\lim_{n \rightarrow \frac{1}{\sqrt{e}}} \frac{a-1}{\left|\frac{1}{n} + a\right| + a} = -\infty$
 باید منفرست سی داخل شد
 $\Rightarrow \frac{1}{n} + 2a = 0 \quad a = -\frac{1}{4} \quad [a] = -1$ ✓

$n > -\frac{1}{2} \Rightarrow n^2 < \frac{1}{\epsilon} \Rightarrow n^2 > \epsilon \Rightarrow \frac{-2}{n^2} < -1$
 $n > -\frac{1}{2} \rightarrow n^2 < \frac{1}{\epsilon} \Rightarrow \frac{1}{n^2} > \epsilon \Rightarrow \frac{3}{n^2} > 12$
 $\lim_{n \rightarrow -\frac{1}{2}^+} \frac{17n+9}{2\epsilon n+12} = \frac{1}{0^+} = +\infty$ ✓

$\lim_{n \rightarrow 2^+} \frac{(n-2)(n+5)}{(n-2)(n^2+2n+4)} = \frac{2}{14} = \frac{1}{7}$ ✓

$$\lim_{x \rightarrow -1} \frac{x^2 + 1 \cdot x + 1}{1 + \sqrt{x}} \stackrel{\frac{0}{0}}{=} \frac{x+1}{\sqrt{x}} = \frac{-1}{\frac{1}{\sqrt{x}}} = -1 \checkmark$$

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(Y)

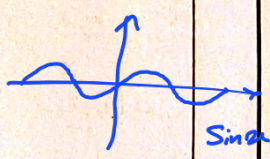
~~$$\lim_{x \rightarrow 0} \frac{\sqrt{x+1} - \sqrt{1-x}}{\sqrt{1-\cos x}}$$~~

(1/0)

$$\lim_{x \rightarrow 0} \frac{x}{\sin x} \times \frac{\frac{1}{\sqrt{x}}}{-\frac{1}{\sqrt{x}}} = -1$$

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$$\lim_{x \rightarrow 0} \frac{\sqrt{x+1} - \sqrt{1-x}}{\sqrt{1-\cos x}} \times \frac{\sqrt{x+1} + \sqrt{1-x}}{\sqrt{x+1} + \sqrt{1-x}} = \frac{x}{2\sqrt{x}} = \frac{1}{2}$$



$$\lim_{x \rightarrow 0} \frac{1 + \cos(\sqrt{x})}{1 + x} \stackrel{\frac{0}{0}}{=} \frac{1 + 1 - \frac{ax^2}{2}}{1 + x} \stackrel{\frac{0}{0}}{=} \frac{-\frac{ax^2}{2}}{x} = -\frac{a}{2} = -\frac{1}{2} \checkmark$$

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(Y)

$$\lim_{x \rightarrow a^+} \frac{x\sqrt{x-a}}{\sqrt{x-a}\sqrt{x+a}} + \frac{x\sqrt{x-a}}{\sqrt{x-a}\sqrt{x+a}} = \lim_{x \rightarrow a^+} \left(\frac{x}{\sqrt{x+a}} + \frac{x(\sqrt{x-a})}{(\sqrt{x-a}\sqrt{x+a})(\sqrt{x+a})} \right) \rightarrow \frac{x}{\sqrt{x+a}} = \sqrt{\frac{x}{x+a}}$$

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$$\begin{aligned} -1^+ &\Rightarrow \frac{1+k}{0^-} = -\infty & 1+k > 0 &\Rightarrow k > -1 \\ -1^- &\Rightarrow \frac{1+k}{0^+} = -\infty & 1+k < 0 &\Rightarrow k < -1 \end{aligned}$$

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