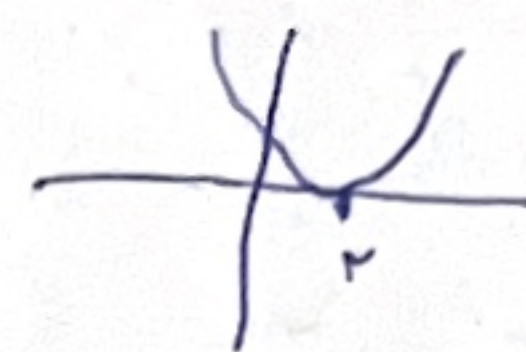


تکلیف شماره ۲۰

کلاس درازدم

بررسی برای ۲۵

$$n^2 + an + b \approx 0 \Rightarrow (n-2)^2 = n^2 - 4n + 4 \Rightarrow a = -4, b = 4 \Rightarrow a+b=0 \checkmark$$



$$(n - \sqrt{4})^2 = n^2 - 2\sqrt{4}n + \sqrt{4} \Rightarrow a = -2\sqrt{4}, b = \sqrt{4}$$

$$\left[\frac{2\sqrt{4}}{-2\sqrt{4}} \right] = \left[-\frac{2\sqrt{4}}{2\sqrt{4}} \right] = \left[-1 \right] = \left[-\sqrt{\frac{1}{4}} \right] \Rightarrow$$

$$\frac{-1 + a}{\left| \frac{1}{4} + a \right| + a} = -\infty \Rightarrow a > \frac{1}{4} \Rightarrow \frac{a-1}{\frac{1}{4} + 2a} = -\infty \Rightarrow a < -\frac{1}{2}$$

$$\Rightarrow [a] = \left(-\frac{1}{2}, \frac{1}{4} \right)$$

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$$n > -\frac{1}{4} \Rightarrow 4n > -1, 24n > -12, -\frac{2}{n} > -10, \frac{n}{n^2} > 12$$

$$\Rightarrow \frac{-1 + 9}{-12 + 12} = \frac{8}{0^+} = +\infty \checkmark$$

$$\lim_{n \rightarrow \infty} \frac{(n-2)(n+2)}{n^2 - 1} = \lim_{n \rightarrow \infty} \frac{(n-2)(n+2)}{(n-1)(n+1)} = \frac{1}{1} = 1 \checkmark$$

$$\frac{(n+1)(n+2)}{4(2+\sqrt{n})} \times \frac{\text{نیل}}{\text{میل}} = \frac{(n+1)(n+2)}{4(4+n)} = -12 \checkmark$$

$$\lim_{n \rightarrow 0^-} \frac{\sqrt{2+n} - \sqrt{2-n}}{\sqrt{1-4n}} \times \frac{\text{فردوج ص}}{\text{فردوج ص}} = \frac{4n}{\sqrt{1-\left(\frac{1-n}{2}\right)}} \times \frac{\text{فردوج ص}}{\sqrt{2}} = \frac{2n}{\sqrt{2}} = \frac{2n}{-2} = -1 \checkmark$$

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$$\lim_{n \rightarrow \infty} \frac{k+1 - \frac{an^r}{r}}{kn^r} = \frac{0}{0} \Rightarrow k = -1 \Rightarrow \frac{-\frac{an^r}{r}}{-n^r} = \frac{a}{r} \Rightarrow a = y$$

$$\frac{y}{-1} = \frac{a}{k} = -y \quad \checkmark$$

(y)

$$\lim_{n \rightarrow \infty} \left(\frac{r\sqrt{n-r_0}}{\sqrt{n-r_0} \times \sqrt{n+r_0}} + \frac{r(\sqrt{n}-\sqrt{r_0})}{\sqrt{n-r_0}} \times \frac{\sqrt{n}+\sqrt{r_0}}{\sqrt{n}+\sqrt{r_0}} \right) \left(\lim_{n \rightarrow \infty} \frac{r}{\sqrt{n+r_0}} + \frac{r(n-r_0)}{\sqrt{n-r_0} \times \sqrt{n+r_0} (\sqrt{n}+\sqrt{r_0})} \right)$$

$$= \lim_{n \rightarrow \infty} \left(\frac{r}{\sqrt{n+r_0}} + \frac{r\sqrt{n-r_0}}{\sqrt{n+r_0} (\sqrt{n}+\sqrt{r_0})} \right) = \frac{\sqrt{r_0}}{r}$$

(y)

$$n = -1 \begin{cases} + \lim_{n \rightarrow -1} \frac{1+k}{n^r-1} = -\infty \Rightarrow \frac{1+k}{0^-} = -\infty \Rightarrow 1+k > 0 \Rightarrow k > -1 \\ - \lim_{n \rightarrow -1} \frac{1+r k}{n^r-1} = -\infty \Rightarrow \frac{1+r k}{0^+} = -\infty \Rightarrow 1+r k < 0 \Rightarrow k < -\frac{1}{r} \end{cases}$$

$$\Rightarrow -1 < k < -\frac{1}{r}$$

$$p(n, y) \Rightarrow n = kr \Rightarrow n < 0$$

$$y = (0, k\pi) \Rightarrow y < 0$$

نقص در قرار دارد