

$$\lim_{n \rightarrow 1} \frac{4n^2 - \sqrt{n} + 2}{an^2 - \sqrt{n} + 2} \Rightarrow \frac{0}{0} \xrightarrow{\text{ریاضیات}} \frac{4(n - \frac{1}{4})(n-1)}{a(n - \frac{1}{a})(n-1)} = \frac{4(\frac{1}{4})}{a(\frac{1}{a})} = \left| \frac{1}{1} \right| \quad (5) \quad \underline{1}$$

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$$\lim_{n \rightarrow \infty} \frac{|\sqrt{n-1}| - |\sqrt{n+1}|}{n} \Rightarrow \frac{0}{0} \xrightarrow{\text{ریاضیات}} \frac{-(\sqrt{n-1}) - (\sqrt{n+1})}{n} = \frac{-\sqrt{n+1} - \sqrt{n-1}}{n} \quad (5)$$

$$n \rightarrow \infty \Rightarrow \sqrt{n-1} < 0 \Rightarrow |\sqrt{n-1}| = -(\sqrt{n-1}) \Rightarrow \frac{-9n}{n} = \left| -9 \right| \quad \underline{2}$$

$$\lim_{n \rightarrow 4} \frac{n-4}{\sqrt{n}-2} \Rightarrow \frac{0}{0} \xrightarrow{\text{ریاضیات}} \frac{(\sqrt{n}-2)(\sqrt{n}+2)}{\sqrt{n}-2} = \sqrt{n}+2 \Rightarrow \sqrt{4}+2 = \left| 4 \right| \quad (5) \quad \underline{3}$$

$$\lim_{n \rightarrow 2} \frac{n - \sqrt{n}}{2n^2 - n - 4} \Rightarrow \frac{0}{0} \xrightarrow{\text{ریاضیات}} \frac{\sqrt{n}(\sqrt{n} - \sqrt{2})}{2(n + \frac{1}{2})(n-2)} = \frac{\sqrt{n}(\sqrt{n} - \sqrt{2})}{2(n + \frac{1}{2})(\sqrt{n} - \sqrt{2})(\sqrt{n} + \sqrt{2})}$$

$$\frac{\sqrt{n}}{2(n + \frac{1}{2})(\sqrt{n} + \sqrt{2})} = \frac{\sqrt{2}}{2(\frac{5}{2})(2\sqrt{2})} = \left| \frac{1}{14} \right| \quad \underline{4}$$

$$\lim_{n \rightarrow 1} \frac{1 - \sqrt{n}}{2 - \sqrt{a-n}} \Rightarrow \frac{0}{0} \xrightarrow{\text{ریاضیات}} \frac{1 - \sqrt{n}}{2 - \sqrt{a-n}} \times \frac{2 + \sqrt{a-n}}{2 + \sqrt{a-n}} \times \frac{1 + \sqrt{n}}{1 + \sqrt{n}}$$

$$\frac{1-n}{2-(a-n)} \times \frac{2}{2} = \frac{2(1-n)}{n-1} = \frac{-2(n-1)}{n-1} = \left| -2 \right| \quad (5) \quad \underline{5}$$

