

$$y_n = \frac{x_1 + x_2 + \dots + x_n}{n}$$

$$\begin{cases} y_1 = \frac{x_1}{1} = \boxed{\sqrt{1}} \\ y_2 = \frac{x_1 + x_2}{2} = \boxed{0} \\ y_3 = \frac{\sqrt{2}}{3}, y_4 = 0, y_5 = \frac{\sqrt{3}}{5} \end{cases}$$

Observe that $y_{2n} = 0$, $y_{2n-1} = \frac{\sqrt{\left\lfloor \frac{2n-1}{2} \right\rfloor}}{2n-1}$

or $y_n = \begin{cases} 0 & \text{when } n = \text{even} \\ \frac{\sqrt{\left\lfloor \frac{2n-1}{2} \right\rfloor}}{2n-1} & n = \text{odd} \end{cases}$

Clearly

$$\lim_{n \rightarrow \infty} y_n = \begin{cases} 0 \\ 0 \end{cases} = \boxed{0}$$

Thus convergent