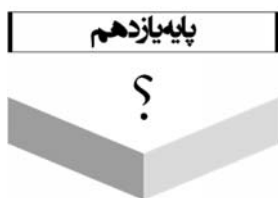


چندین مسئله



صورت و مخرج هر کسر را در مزدوج مخرجش ضرب میکنیم.

$$\begin{aligned}
 & \frac{1}{\sqrt{a_1} + \sqrt{a_2}} + \frac{1}{\sqrt{a_2} + \sqrt{a_3}} + \dots + \frac{1}{\sqrt{a_{n-1}} + \sqrt{a_n}} \\
 &= \frac{\sqrt{a_2} - \sqrt{a_1}}{a_2 - a_1} + \frac{\sqrt{a_3} - \sqrt{a_2}}{a_3 - a_2} + \dots + \frac{\sqrt{a_n} - \sqrt{a_{n-1}}}{a_n - a_{n-1}} \\
 &= \frac{\sqrt{a_2} - \sqrt{a_1} + \sqrt{a_3} - \sqrt{a_2} + \dots + \sqrt{a_n} - \sqrt{a_{n-1}}}{d} \\
 &= \frac{\sqrt{a_n} - \sqrt{a_1}}{d} = \frac{n-1}{\sqrt{a_n} + \sqrt{a_1}}
 \end{aligned}$$