

Q6.

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Example 13 The determinant $\Delta = \begin{vmatrix} \sqrt{23} + \sqrt{3} & \sqrt{5} & \sqrt{5} \\ \sqrt{15} + \sqrt{46} & 5 & \sqrt{10} \\ 3 + \sqrt{115} & \sqrt{15} & 5 \end{vmatrix}$ is equal to

Solution Answer is 0. Taking $\sqrt{5}$ common from C_2 and C_3 and applying $C_1 \rightarrow C_3 - \sqrt{3} C_2$, we get the desired result.