Ansatz: Use case 2 (more or less) on the point we want to halve: Let $\mathbf{P}_1 = \{\mathcal{Q}_1, \mathcal{Q}_2\}$ be the point in question, just add it to a tangential point $\mathbf{P}_2 = \{\mathcal{Q}_3, \mathcal{Q}_3\}$. Obtain a point $\mathbf{P}_3 = \{\mathcal{Q}_5, \mathcal{Q}_6\}$. Let's assume we used (†) to solve. We now see $\mathcal{Q}_3$ as a parameter and impose/want that $\mathcal{Q}_5 = \mathcal{Q}_6$. This means that (†) must factor as a square, so

$$\frac{1}{4}\left(T_5 - \sum_{i=1}^{4} x_i\right)^2 = T_4 - T_5 \sum_{i=1}^{4} x_i + \sum_{\substack{i,j=1 \\ i \leq j}}^{4} x_i x_j$$

with $x_3 = x_4$.