A standard parabola is the graph of a quadratic polynomial $y = x^2 + ax + b$ with leading coefficient 1. Three standard parabolas with vertices V_1, V_2, V_3 intersect pairwise at points A_1, A_2, A_3. Let $A \mapsto s(A)$ be the reflection of the plane with respect to the x axis.

Prove that standard parabolas with vertices $s(A_1)$, $s(A_2)$, $s(A_3)$ intersect pairwise at the points $s(V_1)$, $s(V_2)$, $s(V_3)$.