another pair $p_k + p_\ell$, so the points μ_i, μ_{ij} are all distinct; these, then, are the 16 half-lattice points of A.

Pf ① $h^0(p_i + p_j) = \deg(p_i+p_j) - 2\,(=g) + h^0(K - p_i - p_j) + 1$
$= 2 - 2 + h^0(K - p_i - p_j) + 1$ by Riemann-Roch formula on P245.

② $K \neq p_i + p_j$.
If not, consider the canonical mapping ι_K defined by

$$\begin{array}{ccc} B & \longrightarrow & \mathbb{P}^1 \\ \cup\!\!\!\!\;\raisebox{0pt}{} & & \cup \\ p & \longmapsto & [\omega_1(p), \omega_2(p)], \quad \omega_1, \omega_2 \in H^0(B, \Omega^1). \end{array}$$

Assume that $\omega_2 = 0$ on p_i, p_j.
$\Rightarrow$ By P217, ι_K is 2-1 map and since $p_i \neq p_j$, p_i & p_j can not branch points. By the observation on P961 back page of note, they are not Weierstrass points. $\Rightarrow$ Contradiction. $\Rightarrow K \neq p_i + p_j$.

③ Since $K \neq p_i + p_j$, by the result on P247, $h^0(K - p_i - p_j) = 0 \Rightarrow h^0(p_i + p_j) = 1$, i.e. $\exists$ a unique section σ of $[p_i + p_j]$ s.t $(\sigma = 0) = p_i + p_j$.
up to multiplication

$\Rightarrow$ If $p_i + p_j \sim p_k + p_\ell$, then $[p_i + p_j] = [p_k + p_\ell]$.
$\Rightarrow$ Since $h^0(p_i + p_j) = h^0(p_k + p_\ell) = 1$, and $\exists\ \sigma_1, \sigma_2$ s.t $(\sigma_1 = 0) = p_i + p_j$, and $(\sigma_2 = 0) = p_k + p_\ell$, $\sigma_1 = \alpha\sigma_2$.
$\Rightarrow p_i + p_j = p_k + p_\ell$.
$\Rightarrow$ The points μ_{ij} are all distinct.