CHIP FIRING EXERCISES 8

(1) Let Γ_1 and Γ_2 be metric graphs, and let Γ be the graph obtained by identifying one point of Γ_1 with one point of Γ_2. Show that

$$\mathrm{Jac}(\Gamma) \cong \mathrm{Jac}(\Gamma_1) \times \mathrm{Jac}(\Gamma_2).$$

(2) Give an example of a graph G of genus 3 with the property that, for any choice of edge lengths, the corresponding metric graph possesses a divisor of degree 2 and rank 1.

(3) Let Γ be a metric graph, and let G be a simple, bipartite model for Γ. Prove that the set of vertices of a single color in G is a rank determining set.