

**MATH 351: RIEMANN SURFACES AND DESSINS D'ENFANTS
HOMEWORK #32**

Problem 32.1. On the elliptic curve with equation

$$y^2 = x(x-1)(x-1/\sqrt[3]{2})$$

with $\sqrt[3]{2} \in \mathbb{R}$, the map $f(x) = 4x^3(1-x^3)$ is a Belyi map. Draw the dessin (topologically) associated to this map. [*Hint: Factor the map as $(x, y) \mapsto x \mapsto x^3 \mapsto 4x^3(1-x^3)$.*]