Exercise M1. (a) Find an explicit irrationality measure for $\theta = \sqrt[3]{3}$, i.e. an inequality of the form

$$|\sqrt[3]{3} - \frac{p}{q}| > c \cdot q^{-\lambda}$$

with $\lambda < 3$. (Hint: consider $z = -1/8$).

(b) Use this inequality to solve the Thue inequality

$$|x^3 - 3y^3| \leq 100.$$ 

(c) Try something similar with $\theta = \sqrt[3]{5}$.

(d) Do you think the method works for $\theta = \sqrt[4]{14}$?