

## MA 713 Exercises

You should pass in answers to the following exercises on Wednesday, January 26.

- 1.1. Exercise 3 on p. 8
- 1.2. Exercise 1 on p. 11
- 1.3. Exercise 3 on p. 16 (roots in algebraic form)
- 1.4. In class, we defined the map  $\varphi_1(z) : \mathbb{C} \rightarrow S^2 \subset \mathbb{R}^3$  to be the inverse of stereographic projection. Define a similar map  $\varphi_2(z) : \mathbb{C} \rightarrow S^2$  which omits the “south pole” and which satisfies

$$\varphi_1^{-1} \circ \varphi_2(z) = \frac{1}{z}$$

for all  $z \neq 0$ .

Here are some other exercises that I like:

- Exercises 1 and 2 on p. 6
- Exercises 1 and 5 on p. 8
- Exercise 3 on p. 11
- Exercise 2 on p. 15
- Exercise 4 on p. 16
- Exercises 1 and 5 on p. 17