Hints to homework 7:

2. You may want to try playing around with logical equivalences of the statements (for example, contrapositive). Drawing pictures might help you visualize too.

6. What equivalence class does e belong to and how would it look like? What about e^2 and so on? What elements do these equivalence classes have in common and not have in common?

1,3,4,5 are pretty straightforward, play around with the definitions a bit, and for Q1 you may want to write out the elements of $\mathcal{P}(\{1, 2\})$