1. How many different functions  $f : \mathbb{Z}_5 \to \mathbb{Z}_3$  are there?

2. Is the set  $f = \{(x^2, x) : x \in \mathbb{R}\}$  a function? If so, what is its domain and range? Explain.

3. Is the set  $\theta = \{(X, |X|) : X \subseteq \mathbb{Z}_5\}$  a function? If so, what is its domain and range? Explain.