

CLOSED BOOK quiz. Show all answers and work on this paper. Show all the work necessary to solve the problem.

Definition: The *even part* of a natural number n is the highest power of 2 that divides n .

The relation on \mathbb{N} given by $m \sim n$ if m and n have the same even part is an equivalence relation (do not prove that).

- (1) (10 points) Find the equivalence class of m for each $m \in \mathbb{N}$, $m \leq 6$.
- (2) (10 points) Find the equivalence classes of \sim , without duplication, in the simplest form you can.