Name:

Problem 1: *Give the definition of the Möbius μ-function.*

Solution:
It is

$$\mu(n) = \begin{cases} 1 & \text{if } n = 1 \\ 0 & \text{if } p^2 | n \text{ for some prime } p \\ (-1)^r & \text{if } n = p_1 p_2 \ldots p_r, \text{ where } p_i \text{ are distinct primes.} \end{cases}$$