

Worksheet §11

1. Prove with induction that for all n ,

$$\sum_{i=0}^n \frac{1}{2^i} = 2 - \frac{1}{2^n}.$$

2. Let $A = \{2, 3, 4, 6, 9, 12\}$. Define a relation R from A to itself by xRy if and only if $x \mid y$. Give R in set roster notation.