

Homework 2 Answers

1. Does the set B and the operation \oplus satisfy the group properties ?

Yes

2. Is it true that all odd squares are $\equiv 1 \pmod{8}$? - Yes

Even squares (mod 8) - No, for example 4^2

3.
 1. $O(n)$ this means that in the worse case the time is linear w.r.t. the input size
 2. $O(1)$ - here the time is constant, no matter what the input size
 3. $O(\log n)$ - here the time varies according to the log of the input size
4. For a proof size we would like $O(1)$