

Algebraic Structures: homework #6

Due 7 October 2024, at 9am via Gradescope

To receive full credit, all work must be shown. A passage means what careful but unimaginative reader thinks it does. Add details if in doubt. The problems should be written neatly and in order they were assigned.

A typical homework assignment is graded out of 20 points: 4 points for correctness of each problem. Bonus points result in additional credit.

0. (Ungraded)

- Finish reading Chapter 2 through section 2.13; this is what we covered by the 6th week. Did you find any mistakes or typos? If you did not, you might not have read carefully enough.
- Continue reading Chapter 2.

1. Problem 9 on page 90.

2. Problem 13 on page 91. [Use induction on $o(G)$.]

3. Problem 8 on page 102. [At some point it will help to think about automorphisms.]

4. Problem 10 on page 102. [Use the formula for the size of HK , and Problem 13 on page 91 (above). You may use it even if you did not solve it.]

5. Test is on Wednesday. Free 4 points.