

Algebraic Structures: homework #13

2 December 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.

0. (Ungraded)

- Read up to Section 5.6; this is what we expect to cover by end of the class.

1. Problem 6 on page 227.

2. Prove that the only subfields of $\mathbb{Q}(\sqrt{2}, \sqrt{3})$ are \mathbb{Q} , $\mathbb{Q}(\sqrt{2})$, $\mathbb{Q}(\sqrt{3})$, $\mathbb{Q}(\sqrt{6})$ and $\mathbb{Q}(\sqrt{2}, \sqrt{3})$ itself.

3. Problem 1 on page 231.

4. Enjoy Tranksgiving.