

Homework #6

Due: Week of 3/16

Reading

Section 2.1

Problems

Let:

$$A = \{n \in \mathbb{Z} \mid 0 < n \leq 3\}$$

$$B = \{\sqrt{n} \mid n \in \mathbb{N} \text{ and } 1 \leq n \leq 4\}$$

1. Write A in roster form.
2. Write B in roster form.
3. Is $A = B$? Why or why not?
4. Is $A \subseteq B$? Why or why not?
5. Is $B \subseteq A$? Why or why not?
6. Is $A \subset B$? Why or why not?
7. Construct $A \cup B$.
8. Construct $B \cup A$.
9. Construct $A \cap B$.
10. Construct $B \cap A$.
11. Construct $A - B$.
12. Construct $B - A$.
13. Construct $A \times B$.
14. Construct $B \times A$.
15. Construct $\mathcal{P}(A)$.
16. Construct $\mathcal{P}(B)$.