In-Class Worksheet

Discrete Math & Functional Programming— CSCI 054— Spring 2024

Instructor: Osborn

Let the universal set be $U = \mathbb{Z}^+$, $A = \{n : n \geq 6\}$, and $B = \{1, 2, 4, 5, 7, 8\}$.

What are:

- A^C

- $A \cap B$

- $A \cup B$

- $|B|$

Are either A or B a subset of the other?

Give an example of a proper superset of B.

How would you define the function for "and"?

How would you define the function that takes two real numbers and returns their average?

What are the domain, co-domain, and range for:

- $f : \mathbb{Z} \to \mathbb{Z}$, where $f(x) = 2x$?

- $g : \mathbb{R} \to \mathbb{R}$, where $g(x) = \frac{1}{x}$?