

Name _____

CSCI 332, Fall 2025

Quiz 1

1. (2 points) For each set notation symbol below, write its name or meaning in English. The first is filled in for you as an example.

(a) \mathcal{P} : power set

(b) \in : _____

(c) \subseteq : _____

(d) \cup : _____

(e) \cap : _____

2. (3 points) Circle True or False for each of the following statements.

(a) $A \cap B = \{x : x \in A \text{ and } x \in B\}$: True or False

(b) $5 \in \{n^2 : n \in \mathbb{Z}\}$: True or False

(c) $\mathcal{P}(S)$ is the set of all elements of S : True or False

3. (5 points) Given the following preference lists as input for the hospital/medical student matching problem.

X: A, B, C A: Y, X, Z

Y: B, A, C B: X, Y, Z

Z: A, B, C C: X, Y, Z

(a) Is the matching $M = \{(X, A), (Y, B), (Z, C)\}$ stable? Circle one: Yes or No

(b) How do you know?

(c) Is the matching $M = \{(X, C), (Y, B), (Z, A)\}$ stable? Circle one: Yes or No

(d) How do you know?