

Math 150 03 – Calculus I

Homework assignment 1

Due: Wednesday, September 13, 2023

Write your answers on a separate sheet of paper. Write your name at the top of each page you use, and number each page. Remember to number your answers correctly.

1. Consider the following sets.

$$A = \{1, 3, 5, 7, 9\} \quad B = \{2, 4, 6, 8\} \quad C = \{1, 2, 3, 7, 8, 9\}$$

(a) Calculate:

- i. $A \cup B$ (The union of A and B .)
- ii. $A \cap B$ (The intersection of A and B .)
- iii. $A \cup B \cup C$
- iv. $A \cap B \cap C$
- v. $A \cup (B \cap C)$
- vi. $(A \cup B) \cap C$

(b) Consider the relation

$$R = \{(x, y) \in B \times A \mid y = x + 1\}$$

- i. Write out all the elements of R .
- ii. Draw arrows from left to right representing the relation R .

<u>B</u>	<u>A</u>
2	1
4	3
6	5
8	7
	9

- iii. Draw the graph of the relation R .
- iv. Is R a function from B to A ? Explain.

