

# Math 101 - Quiz 01 (2023-02-03)

1.  $A = \{2n : n \text{ is an integer}\}$  and  $B = \{1, 2, 3, 4, 5\}$ . Find  $A \cap B$ .
2. For  $1 \leq i \leq 10$ , let  $A_i = \{1, 2, \dots, i\}$ . Determine  $|\cup_{i=1}^{10} A_i|$ .
3. Suppose  $A = \{0, 3, 6, 9, 12, 15, 18\}$  and  $B = \{0, 2, 4, 6, 8\}$ . Find  $A \cup B$  and  $A \cap B$ .
4. Suppose  $A$  and  $B$  are disjoint sets with  $|A| = 5$  and  $|B| = 3$ . Determine  $|A \cup B|$ .
5. Suppose that  $A$  and  $B$  are sets with  $|A| = 5$  and  $|B| = 3$ . Can you say anything about  $|A \cup B|$ ?