

## 4期生数学サブゼミテスト⑫

About 20 minutes

### NOTICE

- 1 All the numbers in this test are real number, if there is no notice.
- 2 Hurry up as fast as possible.
- 3 If you have any questions, raise your hand quietly and let officer know.
- 4 You can use pencil and ruler.
- 5 You must answer on “answer sheet” differentiated from “question sheet”. If you answer on “question sheet”, you will get no score with the answers.
- 6 Write your name at the top space on the answer sheet.
- 7 You can also get some scores from the process of answering.  
In other word, you must write the process.

Answer in Japanese or English.

1. Define “set”.
2. Transcribe that word into symbol.  
①  $x$  is real number    ②  $y$  is natural number    ③  $Z$  is integers
3. Transcribe next word into symbol.  
①  $A$  is the subset of  $B$     ② complementary sets of  $A$
4. Show next case with symbol and diagram.  
①  $A$  and  $B$     ②  $A$  or  $B$     ③ set “ $A$ ” is included in  $B$   
④ element “ $x$ ” is included in set “ $A$ ”
5. What is “ $P \Rightarrow Q$ ” and “ $P \Leftrightarrow Q$ ”?
6. Show complementary sets of “ $A \cap B$ ” with symbol and diagram.
7. What is “ $\varphi$ ”?
8. Suppose “ $A = \{1,2\}, B = \{3,4\}$ ”. What set is “ $A \times B$ ”?
9. Show the denial of proposition”  $P$ ” with symbol.