

4期生数学サブゼミテスト③

About 30min

NOTICE

- 1 The number in this test are all “Real Number” if there is no assignment.
- 2 Hurry up as fast as possible.
- 3 If you have any question, raise your hand quietly and let officer know.
- 4 You can use only mechanical pencil or pencil. You can also use ruler.
- 5 You must answer on “answer sheet” differentiated from “question sheet”. If you answer on “question sheet”, you will get 0 score. Also, you must not write letters shut of the question.
- 6 Write your name on the right space.
- 7 You can also get score from the process of answering.

1. Draw these following functions.

$$(1) \quad y = \frac{2x-1}{x+1}$$

$$(2) \quad y = \sqrt{2x+4}$$

$$(3) \quad y = -\sqrt{2x-4} - 3$$

2. Find the coordinate of intersection $y = \sqrt{2x+1}$ and $y = x-1$.

3. Find inverse function and domain of function $y = \frac{2x+3}{x+1}$.

4. Draw the territory of the following inequality.

$$(1) \quad 3x - 2y + 6 \geq 0$$

$$(2) \quad x^2 + y^2 - 2x + 4y - 4 \leq 0$$

$$(3) \quad 3x + 4y - 12 \leq 0$$

5. Draw the territory of the following coalition inequality.

$$(1) \quad y < x^2 \text{ and } y > 2x + 3$$

$$(2) \quad 2x - 3y + 6 > 0 \text{ and } 3x + 2y - 6 < 0$$

6. Find the max point and minimum point of $x + 2y$,
subject to $x + y - 3 \leq 0$ and $x + 4y \geq 0$ and $5x - 4y + 3 \leq 0$