

高校数A

解答

p2

例1

- ①集合, 要素
- ② $A = \{1, 2, 3, 6\}$, $A = \{x | x \text{ は } 6 \text{ の正の約数}\}$
- ③属する, \in , \notin
- ④有限集合, 無限集合

- 練習1 ① $\{2, 3, 5, 7, 11, 13\}$ ② $\{1, 2, 3, 6, 9, 18\}$
 ③ $\{2, 3, 5, 7, 11, 13, 17, 19\}$
 ④ $\{1, 3, 5, 7, 9, 11\}$ ⑤ $\{-3, 3\}$
 ⑥ $\{0, 1, 2, 3, 4\}$ ⑦ $\{2, 4, 6, 8, \dots, 90\}$
 ⑧ $\{5, 10, 15, 20, \dots, 150\}$
 ⑨ $\{3, 6, 9, 12, \dots\}$ ⑩ $\{2, 4, 6, 8, \dots\}$
- 練習2 ① \in ② \notin ③ \in ④ \notin ⑤ \notin ⑥ \notin

p3

例2

- ①部分集合, \subset , 含まれる, 含む
- ②部分集合, \subset ③等しい, $=$

- 練習1 ① $\emptyset \{1\} \{2\} \{1, 2\}$
 ② $\emptyset \{3\} \{4\} \{5\} \{3, 4\} \{3, 5\} \{4, 5\} \{3, 4, 5\}$
 ③ $\emptyset \{6\} \{7\} \{6, 7\}$
 ④ $\emptyset \{7\} \{8\} \{9\} \{7, 8\} \{7, 9\} \{8, 9\} \{7, 8, 9\}$
 ⑤ $\emptyset \{a\} \{b\} \{a, b\}$
 ⑥ $\emptyset \{a\} \{b\} \{c\} \{a, b\} \{a, c\} \{b, c\} \{a, b, c\}$
- 練習2 ① $A \subset B$ ② $A \supset B$ ③ $A = B$ ④ $A \subset B$
 ⑤ $A = B$ ⑥ $A \subset B$ ⑦ $A \supset B$ ⑧ $A \supset B$
 ⑨ $A \subset B$ ⑩ $A \supset B$ ⑪ $A \supset B$ ⑫ $A \subset B$

p4

例3

- ①共通部分, \cap , 和集合, \cup
- ② $A \cap B = \{3, 4\}$ $A \cup B = \{1, 2, 3, 4, 5, 6, 7\}$
- ③かつ, または

- 練習 ① $A \cap B = \{3, 5, 7\}$, $A \cup B = \{1, 2, 3, 4, 5, 6, 7\}$
 ② $A \cap B = \{2, 4, 6\}$, $A \cup B = \{1, 2, 3, 4, 6, 8\}$
 ③ $A \cap B = \emptyset$, $A \cup B = \{1, 2, 3, 4, 6, 8\}$
 ④ $A \cap B = \{2, 4\}$, $A \cup B = \{1, 2, 4, 6, 8\}$
 ⑤ $A \cap B = \{1, 2, 4\}$, $A \cup B = \{1, 2, 3, 4, 6, 8, 12, 16\}$
 ⑥ $A \cap B = \{7\}$, $A \cup B = \{1, 2, 3, 5, 7, 9\}$
 ⑦ $A \cap B = \{4, 6\}$, $A \cup B = \{0, 2, 3, 4, 5, 6, 7, 8, 9\}$
 ⑧ $A \cap B = \{0, 3\}$, $A \cup B = \{0, 1, 2, 3, 6, 9\}$

p5

例4

- ① $U = \{1, 2, 3, 4, 5, 6, 7, 8, 9\}$, $A = \{2, 4, 6, 8\}$
 全体集合, 補集合, \bar{A} , $\bar{A} = \{1, 3, 5, 7, 9\}$
- ② $A \cap \bar{A} = \emptyset$, $A \cup \bar{A} = U$, $\bar{\bar{A}} = A$

- 練習1 ① $\{4, 5, 6\}$ ② $\{1, 2, 4, 6\}$ ③ $\{3\}$
 ④ $\{1, 2, 3, 5\}$ ⑤ $\{1, 2\}$ ⑥ $\{5\}$ ⑦ $\{4, 6\}$
 ⑧ $\{1, 2, 4, 5, 6\}$ ⑨ $\{4, 6\}$ ⑩ $\{1, 2, 4, 5, 6\}$
- 練習2 ① $\{1, 3, 5, 7\}$ ② $\{1, 3, 4, 5, 8\}$ ③ $\{2, 6\}$
 ④ $\{2, 4, 6, 7, 8\}$ ⑤ $\{4, 8\}$ ⑥ $\{7\}$
 ⑦ $\{1, 3, 5\}$ ⑧ $\{1, 3, 4, 5, 7, 8\}$
 ⑨ $\{1, 3, 5\}$ ⑩ $\{1, 3, 4, 5, 7, 8\}$

p6

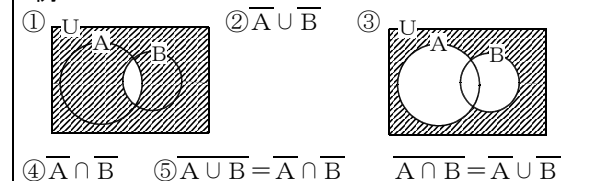
- 練習3 ① $\{1, 4\}$ ② $\{3, 4\}$ ③ $\{2\}$
 ④ $\{1, 2, 3\}$ ⑤ $\{3\}$ ⑥ $\{1\}$ ⑦ $\{4\}$
 ⑧ $\{1, 3, 4\}$ ⑨ $\{4\}$ ⑩ $\{1, 3, 4\}$
- 練習4 ① $\{3, 6, 7\}$ ② $\{2, 3, 5, 6\}$ ③ $\{1, 4\}$
 ④ $\{1, 2, 4, 5, 7\}$ ⑤ $\{2, 5\}$ ⑥ $\{7\}$
 ⑦ $\{3, 6\}$ ⑧ $\{2, 3, 5, 6, 7\}$ ⑨ $\{3, 6\}$
 ⑩ $\{2, 3, 5, 6, 7\}$
- 練習5 ① $\{1, 4, 6, 7\}$ ② $\{1, 3, 5, 6\}$ ③ $\{2\}$
 ④ $\{2, 3, 4, 5, 7\}$ ⑤ $\{3, 5\}$ ⑥ $\{4, 7\}$
 ⑦ $\{1, 6\}$ ⑧ $\{1, 3, 4, 5, 6, 7\}$
 ⑨ $\{1, 6\}$ ⑩ $\{1, 3, 4, 5, 6, 7\}$

p7

例5

- ① $A \cap B$ ② $A \cap \bar{B}$ ③ $\bar{A} \cap B$ ④ $A \cup B$
- 練習 ① $\{3\}$ ② $\{1, 2\}$ ③ $\{5\}$ ④ $\{4, 6\}$

例6



- 練習1 ① $\{1, 2, 3, 5, 6\}$ ② $\{1, 3\}$ ③ $\{1, 3\}$
 ④ $\{1, 2, 3, 5, 6\}$
- 練習2 ① $A \cup B$ ② $A \cup \bar{B}$ ③ $\overline{P \cap Q}$ ④ $\bar{A} \cap \bar{B}$
 ⑤ $P \cup Q$ ⑥ $A \cap B$ ⑦ $\overline{P \cap Q}$ ⑧ $\overline{P \cup Q}$

p8

- 1 ① $\{2, 3, 5, 7\}$ ② $\{1, 2, 3, 4, 6, 12\}$
 ③ $\{2, 3, 5, 7, 11, 13\}$ ④ $\{1, 3, 5, 7, 9\}$
 ⑤ $\{-4, 4\}$ ⑥ $\{-1, 0, 1, 2, 3, 4, 5\}$
 ⑦ $\{2, 4, 6, 8, \dots, 100\}$ ⑧ $\{4, 8, 12, 16, \dots, 80\}$
 ⑨ $\{2, 4, 6, 8, \dots\}$ ⑩ $\{5, 10, 15, 20, \dots\}$
- 2 ① \in ② \notin ③ \notin ④ \in ⑤ \notin ⑥ \notin
- 3 ① $\emptyset \{2\} \{4\} \{2, 4\}$
 ② $\emptyset \{1\} \{3\} \{5\} \{1, 3\} \{1, 5\} \{3, 5\} \{1, 3, 5\}$
 ③ $\emptyset \{3\} \{8\} \{3, 8\}$
 ④ $\emptyset \{0\} \{4\} \{6\} \{0, 4\} \{0, 6\} \{4, 6\} \{0, 4, 6\}$
 ⑤ $\emptyset \{x\} \{y\} \{x, y\}$
 ⑥ $\emptyset \{x\} \{y\} \{z\} \{x, y\} \{x, z\} \{y, z\} \{x, y, z\}$
- 4 ① $A \supset B$ ② $A \subset B$ ③ $A = B$ ④ $A \subset B$
 ⑤ $A \subset B$ ⑥ $A \supset B$ ⑦ $A \supset B$

p9

- 5 ① $A \cap B = \{5, 7\}$ $A \cup B = \{1, 3, 4, 5, 6, 7, 8, 9\}$
 ② $\{2, 4\}$, $\{1, 2, 3, 4, 6, 8\}$ ③ $\{1\}$, $\{1, 2, 3, 5, 6\}$
 ④ $\{1, 3, 5\}$, $\{1, 3, 5, 7, 15\}$
 ⑤ $\{3, 6\}$, $\{2, 3, 4, 5, 6, 7, 9\}$
- 6 ① $\{3, 4, 6\}$ ② $\{1, 2, 4, 7\}$ ③ $\{5\}$
 ④ $\{1, 2, 3, 5, 6, 7\}$ ⑤ $\{1, 2, 7\}$ ⑥ $\{3, 6\}$
 ⑦ $\{4\}$ ⑧ $\{1, 2, 3, 4, 6, 7\}$ ⑨ $\{4\}$
 ⑩ $\{1, 2, 3, 4, 6, 7\}$
- 7 ① $\{2, 3, 5\}$ ② $\{1, 2, 3, 6\}$ ③ $\{4\}$
 ④ $\{1, 4, 5, 6\}$ ⑤ $\{1, 6\}$ ⑥ $\{5\}$
 ⑦ $\{2, 3\}$ ⑧ $\{1, 2, 3, 5, 6\}$ ⑨ $\{2, 3\}$
 ⑩ $\{1, 2, 3, 5, 6\}$
- 8 ① $A \cup B$ ② $A \cup \bar{B}$ ③ $\overline{P \cap Q}$ ④ $\bar{A} \cap \bar{B}$
 ⑤ $P \cup Q$ ⑥ $A \cap B$ ⑦ $\overline{P \cap Q}$ ⑧ $\overline{P \cup Q}$