

EduSahara™ Learning Center Assignment**Grade : Class VIII, ICSE****Chapter : Sets****Name : Set Algebra****Licensed To : Teachers and Students for non-commercial use**

1. Which of the following are true?

- a) $A \cap A' = A$
- b) $A \cap A' = \mu$
- c) $A \cup A' = \emptyset$
- d) $A \cup A' = A$
- e) $A \cap A' = \emptyset$
- f) $A \cup A' = \mu$

(i) {a,e} (ii) {b,f} (iii) {e,f} (iv) {a,f,e} (v) {c,d,e}

2. Which of the following are true with respect to set operations?

- a) Union distributes over intersection
- b) Intersection is associative
- c) Union does not distribute over intersection
- d) Intersection distributes over union
- e) Intersection is not associative

(i) {c,e,d} (ii) {e,b} (iii) {c,a} (iv) {a,b,d} (v) {c,a,b}

3. Which of the following are true with respect to set operations?

- a) Union is associative
- b) Union is commutative
- c) Union is not commutative
- d) Intersection is commutative
- e) Intersection is not commutative

(i) {c,a,b} (ii) {c,a} (iii) {c,e,d} (iv) {a,b,d} (v) {e,b}

4. Which of the following are true?

- a) $A' \cup B' = (A \cup B)'$
- b) $A' \cap B' = (A \cup B)'$
- c) $A' \cup B' = (A \cap B)'$
- d) $A' \cap B' = (A \cap B)'$
- e) $A' \cap B' = A' \cup B'$

(i) {d,c} (ii) {b,c} (iii) {e,a,b} (iv) {a,b} (v) {d,c,b}

5. Which of the following are true?

- a) $A \cup (B \cap C) = (A \cup B) \cap (A \cup C)$
 - b) $A \cap (B \cup C) = (A \cap B) \cup (A \cap C)$
 - c) $(A \cap B) \cap C = A \cap (B \cap C)$
 - d) $A \cup (B \cap C) = (A \cap B) \cup (A \cap C)$
 - e) $A \cap (B \cup C) = (A \cup B) \cap (A \cup C)$
 - f) $(A \cup B) \cup C = A \cup (B \cup C)$
- (i) $\{e,b\}$ (ii) $\{d,a\}$ (iii) $\{d,e,c\}$ (iv) $\{a,b,c,f\}$ (v) $\{d,f,a\}$
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6. If $A = \{4,5,3,8,2\}$, which of the following are true?

- a) $A \supset 8$
 - b) $8 \subset A$
 - c) $8 \notin A$
 - d) $8 \in A$
 - e) $\{4,2\} \subset A$
- (i) $\{b,e,d\}$ (ii) $\{d,e\}$ (iii) $\{b,e\}$ (iv) $\{a,d\}$ (v) $\{c,a,d\}$
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7. If A and B are disjoint sets, which of the following are true?

- a) $A \cap B = \emptyset$
 - b) $A \subset B$
 - c) $B \subset A$
 - d) $A \cup B = A$
 - e) $A \cap B = A$
- (i) $\{d,e,a\}$ (ii) $\{a\}$ (iii) $\{c,a\}$ (iv) $\{b,a\}$
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8. If $A = \{v,e,d,n,j\}$, which of the following are true?

- a) $d \in A$
 - b) $A \supset d$
 - c) $d \notin A$
 - d) $d \subset A$
 - e) $\{v,d\} \subset A$
- (i) $\{c,e,a\}$ (ii) $\{a,e\}$ (iii) $\{b,a\}$ (iv) $\{c,e\}$ (v) $\{d,b,a\}$
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9. Given sets A, B and C, where $A \subset B \subset C$, which of the following are true?

- a) $C \supset B$
- b) $\emptyset \subset B$
- c) $B \subset A$
- d) $C \subset A$

e) $B \supset A$

(i) $\{c,a,b\}$ (ii) $\{c,d,e\}$ (iii) $\{d,b\}$ (iv) $\{c,a\}$ (v) $\{a,b,e\}$

10. Which of the following are true?

a) $A \cup A = A$

b) $A \cap \emptyset = A$

c) $A \cup A = \emptyset$

d) $A \cup \emptyset = A$

e) $A \cup \emptyset = \emptyset$

(i) $\{a,d\}$ (ii) $\{c,d,a\}$ (iii) $\{b,a\}$ (iv) $\{c,d\}$ (v) $\{e,b,a\}$

11. If $A \subset B$, then which of the following are true?

a) $A' \subset B$

b) $B \subset A$

c) $B \supset A$

d) $A' = B$

e) $A = B$

(i) $\{b,c\}$ (ii) $\{d,e,c\}$ (iii) $\{c\}$ (iv) $\{a,c\}$

12. If $A \subset B$, then which of the following are true?

a) $A \cup B = \emptyset$

b) $A \cap B = B$

c) $A \cup B = A$

d) $A \cap B = A$

e) $A \cup B = B$

(i) $\{a,d\}$ (ii) $\{c,a,d\}$ (iii) $\{b,e,d\}$ (iv) $\{d,e\}$ (v) $\{b,e\}$

13. If $A \subset B$, then which of the following are true?

a) $A - B = \emptyset$

b) $B - A = B$

c) $A - B = B$

d) $A \cup B = \emptyset$

e) $B - A = A$

(i) $\{d,e,a\}$ (ii) $\{a\}$ (iii) $\{b,a\}$ (iv) $\{c,a\}$

Given 5 sets $A = \{7,6,8,5\}$, $B = \{5,6,7,8\}$, $C = \{10,3,4,5,7,8,1\}$,

14. $D = \{13,16,12,19,15,11,18\}$ and $E = \{4,2,10,8,3,5,7,9,1,6\}$,

which of the following are true?

a) $C = D$

b) $C \leftrightarrow D$

c) $A \subset C$

d) $A = B$

e) $A \leftrightarrow C$

(i) $\{c,d\}$ (ii) $\{e,a,b\}$ (iii) $\{c,d,b\}$ (iv) $\{b,d\}$ (v) $\{a,b\}$

15. For any two non-empty sets A and B, which of the following are true?

a) $A \cap B = B \cap A$

b) $A \cup B = B \cup A$

c) $A \cap B = B \cup A$

d) $A \cup B = B \cap A$

e) $A \cup B = \emptyset$

(i) $\{d,b\}$ (ii) $\{e,c,a\}$ (iii) $\{d,b,a\}$ (iv) $\{c,a\}$ (v) $\{a,b\}$

Assignment Key

- 1) (iii)
- 2) (iv)
- 3) (iv)
- 4) (ii)
- 5) (iv)
- 6) (ii)
- 7) (ii)
- 8) (ii)
- 9) (v)
- 10) (i)
- 11) (iii)
- 12) (iv)
- 13) (ii)
- 14) (iv)
- 15) (v)