



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

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

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

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

- a) $B - A = B$
- b) $A - B = \emptyset$
- c) $B - A = A$
- d) $A \cup B = \emptyset$
- e) $A - B = B$

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

Given 5 sets $A = \{5,3,2,9\}$, $B = \{5,2,3,9\}$, $C = \{10,8,9,4,7,1,2\}$,

3. $D = \{17,18,11,14,19,16,13\}$ and $E = \{1,3,5,2,6,4,10,7,9,8\}$,
which of the following are true?

- a) $C = D$
- b) $A = B$
- c) $A \subset C$
- d) $A \leftrightarrow C$
- e) $C \leftrightarrow D$

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

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

5. If $A = \{3,2,0\}$ and $B = \{2,1,3\}$, then $A \cup B =$

(i) $\{1,0,2,3,10\}$ (ii) $\{2,0,9,3\}$ (iii) $\{\}$ (iv) $\{3,0,1\}$ (v) $\{1,2,3,0\}$

6. If $A = \{9,0,7,1\}$ and $B = \{6,8,1,0\}$, then $A \cup B =$

(i) $\{9,0,7,6,8\}$ (ii) $\{7,6,0,9,1\}$ (iii) $\{0,7,8,1,6,9\}$ (iv) $\{8,0,7,9,1,14,6\}$ (v) $\{9,7,0,1,15,6\}$

7. If $A = \{11,5,1,0,3\}$ and $B = \{12,11,10,5,15\}$, then $A \cup B =$
 (i) $\{1,5,11,12,15,3,10\}$ (ii) $\{5,10,1,12,15,3,0,11\}$ (iii) $\{11,15,16,10,5,12,1,0,3\}$ (iv) $\{1,17,3,0,10,12,5,11\}$
 (v) $\{1,12,11,15,3,5,0\}$
8. If $A = \{10,4,8\}$ and $B = \{10,2,4\}$, then $A \cap B =$
 (i) $\{4,2,10,8\}$ (ii) $\{10,4\}$ (iii) $\{10,15,4\}$ (iv) $\{10,2,4\}$ (v) $\{10,4,8\}$
9. If $A = \{9,6,7,5,2\}$ and $B = \{7,5,2,1,4\}$, then $A \cap B =$
 (i) $\{5,4,7,1,2\}$ (ii) $\{2,5,7\}$ (iii) $\{4,5,7,2\}$ (iv) $\{5,2,9,7\}$ (v) $\{7,11,2,5\}$
10. If $A = \{6,7,12,10,14,13,1\}$ and $B = \{12,2,3,7,13,8,14\}$, then $A \cap B =$
 (i) $\{2,12,6,7,13,14\}$ (ii) $\{14,12,7,13,16\}$ (iii) $\{12,14,13,7,8\}$ (iv) $\{13,14,7,1,12\}$ (v) $\{7,14,12,13\}$
11. If $A = \{1,2,0,8\}$ and $B = \{7,4,0,8\}$, then $A - B =$
 (i) $\{1,2\}$ (ii) $\{2,8,1\}$ (iii) $\{2\}$ (iv) $\{2,12,1\}$ (v) $\{4,7\}$
12. If $A = \{6,10,9,13,14\}$ and $B = \{12,1,8,2,14\}$, then $A - B =$
 (i) $\{9,13,14,10,6\}$ (ii) $\{9,10,6,17,13\}$ (iii) $\{9,13,10\}$ (iv) $\{10,6,9,13\}$ (v) $\{12,2,8,1\}$
13. If $A = \{3,2,9,10,4,5\}$ and $B = \{9,11,6,13,15,5\}$, then $A - B =$
 (i) $\{4,10,3,2\}$ (ii) $\{4,2,3\}$ (iii) $\{11,15,6,13\}$ (iv) $\{20,3,2,10,4\}$ (v) $\{2,3,4,9,10\}$
14. If $A = \{9,1,4,6\}$ and $B = \{9,2,3,6\}$, then $B - A =$
 (i) $\{2\}$ (ii) $\{3,2,6\}$ (iii) $\{3,2,12\}$ (iv) $\{\}$ (v) $\{3,2\}$
15. If $A = \{11,1,10,2,9\}$ and $B = \{2,12,7,1,9\}$, then $B - A =$
 (i) $\{1,7,12\}$ (ii) $\{\}$ (iii) $\{17,7,12\}$ (iv) $\{12\}$ (v) $\{7,12\}$
16. If $A = \{12,4,9,0,5,1\}$ and $B = \{2,14,4,6,3,1\}$, then $B - A =$
 (i) $\{\}$ (ii) $\{1,3,14,6,2\}$ (iii) $\{2,6,14,16,3\}$ (iv) $\{14,6,3,2\}$ (v) $\{6,2,14\}$
17. The symmetric difference of set $A = \{1,4,5,2\}$ and set $B = \{0,1,3,2\}$ is
 (i) $\{0,3,2,5,4\}$ (ii) $\{0,3\}$ (iii) $\{4,5\}$ (iv) $\{0,4,3\}$ (v) $\{0,4,5,3\}$
18. The symmetric difference of set $A = \{4,6,0,1,10\}$ and set $B = \{2,7,5,3,10\}$ is
 (i) $\{5,0,7,2,10,6,4,3,1\}$ (ii) $\{6,3,7,0,4,2,5\}$ (iii) $\{1,0,6,4\}$ (iv) $\{1,7,4,5,2,3,6,0\}$ (v) $\{7,3,5,2\}$
19. If $\mu = \{9,3,0,5,-6,6,-5,-3,2,-8,7,-1,-7,1\}$, $A = \{9,3,0,5,-6,6\}$ and $B = \{5,9,-5,-3\}$, find $A \cup B$
 (i) $\{3,9,0,-6,5,-3,6,-5\}$ (ii) $\{6,-5,3,-3,-6,0,5\}$ (iii) $\{6,-5,2,9,5,3,-3,-6\}$ (iv) $\{\}$ (v) $\{-5,6,-3,5,3,-6,9,-7,0\}$
20. If $\mu = \{5,-6,3,6,-1,4,-5,2,-8,8,-2\}$, $A = \{5,-6,3,6,-1\}$ and $B = \{4,-5,3\}$, find $A \cap B$
 (i) $\{3\}$ (ii) $\{8,3\}$ (iii) $\{2\}$ (iv) $\{\}$
21. If $\mu = \{-8,-6,1,0,-4,9,-5,3,2,-2,4,5,-7\}$, $A = \{-8,-6,1,0\}$ and $B = \{-4,9,-5,3,2,0\}$, find $A - B$
 (i) $\{1,-7,-8,-6\}$ (ii) $\{-8,1\}$ (iii) $\{1,-8,5\}$ (iv) $\{\}$ (v) $\{-6,1,-8\}$
22. If $\mu = \{-2,3,7,-3,-1,8,-8,-4,0,-5,9,5,-6,4,10,1,6,-7\}$, $A = \{-2,3,7,-3,-1,8,-8\}$ and $B = \{-4,-8,0,-5,9,8,-3\}$, find $B - A$
 (i) $\{-5,-4,9,0\}$ (ii) $\{-6,-5,0,9,-4\}$ (iii) $\{-4,9,-5\}$ (iv) $\{\}$ (v) $\{0,6,-4,9\}$

23. If $\mu = \{-3, 1, 8, -7, 3, 0, 4, -1, -4, 5, 9, -9, 7, 2, -5\}$, $A = \{-3, 1, 8, -7, 3, 0\}$ and $B = \{4, -3, -1, 0, -4\}$, find $(A - B) \cup (B - A)$
 (i) $\{3, 8, 4, -7, -4, -1, 1\}$ (ii) $\{1, -1, 4, -7, 8, 3\}$ (iii) $\{4, 5, -1, 8, 1, -4, 3\}$ (iv) $\{8, 4, -1, -4, 3, -7, 1, 5\}$ (v) $\{-1, -7, 1, 3, -4, 4\}$
24. If $\mu = \{-6, -7, -4, 6, 3, -9, 7, -5, 2, -3, -8, 9, -2, 1, 4\}$, $A = \{-6, -7, -4, 6, 3, -9\}$ and $B = \{7, -5, 3, 2, -7\}$, find $(A \cup B) - (A \cap B)$
 (i) $\{-4, -6, -5, 2, 7, -9\}$ (ii) $\{-9, -6, -5, 2, 7, -4, -3\}$ (iii) $\{-6, 2, 6, 7, -5, -4, -9\}$ (iv) $\{2, 6, -4, 9, 7, -9, -6, -5\}$
 (v) $\{-9, 7, -4, 2, -6, 6\}$
25. If $\mu = \{-6, -9, -4, 5, -3, -7, 9, -8, 3\}$, $A = \{-6, -9, -4\}$ and $B = \{5, -3, -7, -4\}$, find $n(A \cup B)$
 (i) 5 (ii) 4 (iii) 7 (iv) 9 (v) 6
26. If $\mu = \{-6, 3, -9, 1, 2, 6, 4, -7, 7, -5, 8, 5, -3, 9\}$, $A = \{-6, 3, -9, 1\}$ and $B = \{2, 6, 4, -7, 1, -9, 7\}$, find $n(A \cap B)$
 (i) 4 (ii) 1 (iii) 3 (iv) 0 (v) 2
27. If $\mu = \{-2, 2, 5, 8, -8, -4, 4, -1\}$, $A = \{-2, 2, 5\}$ and $B = \{8, -8, 5\}$, find $n(A - B)$
 (i) 3 (ii) 1 (iii) 4 (iv) 2 (v) (-1)
28. If $\mu = \{-2, 5, -1, 6, -9, 7, -4, -7, 9, -8, -3, 1\}$, $A = \{-2, 5, -1, 6\}$ and $B = \{-9, 5, -2, 7, 6\}$, find $n(B - A)$
 (i) 4 (ii) 3 (iii) 1 (iv) 0 (v) 2
29. If $\mu = \{1, 2, -3, 3, -1, 4, -2, 9, -7, -5, 8, 5, -9, 10, 0, 6, 7, -6\}$, $A = \{1, 2, -3, 3, -1, 4, -2\}$ and $B = \{9, -7, -1, -5, 4, -2, 8\}$, find $n((A - B) \cup (B - A))$
 (i) 7 (ii) 6 (iii) 8 (iv) 9 (v) 10
30. If $\mu = \{6, -3, -8, -1, 9, -7, 7, -2, -4, 4, -5, 5, -9, 8\}$, $A = \{6, -3, -8, -1, 9, -7, 7\}$ and $B = \{-2, -7, -1\}$, find $n((A \cup B) - (A \cap B))$
 (i) 5 (ii) 4 (iii) 7 (iv) 9 (v) 6

Assignment Key

1) (iv)	2) (ii)	3) (v)	4) (i)	5) (v)	6) (iii)
7) (ii)	8) (ii)	9) (ii)	10) (v)	11) (i)	12) (iv)
13) (i)	14) (v)	15) (v)	16) (iv)	17) (v)	18) (iv)
19) (i)	20) (i)	21) (v)	22) (i)	23) (i)	24) (iii)
25) (v)	26) (v)	27) (iv)	28) (v)	29) (iii)	30) (v)