



1. Find the number of proper subsets of $A = \{1,0,2,3\}$
(i) 17 (ii) 16 (iii) 13 (iv) 14 (v) 15
2. If $\mu = \{2,-2,3,-4,4,9,7,-7,-3,0,-5,6\}$, $A = \{2,-2,3\}$ and $B = \{-4,4,9,7,-7,-3,0\}$, find A
(i) $\{2,-2,3\}$ (ii) $\{-2,2,-5,3\}$ (iii) $\{\}$ (iv) $\{-2,2\}$ (v) $\{-2,-5,2\}$
3. Which of the following is not equal to set $A = \{9,3,10,6,8,2,4,1,0\}$?
(i) $\{4,10,9,2,0,1,3,8,6\}$ (ii) $\{1,3,6,5,4,9,0,2,10\}$ (iii) $\{1,10,8,0,4,6,9,3,2\}$ (iv) $\{2,0,3,8,6,4,1,9,10\}$
(v) $\{9,1,2,0,3,6,4,10,8\}$
4. Which of the following is superset of $A = \{0,1,3,4,7,8\}$?
(i) $\{1,6,0,7,3,4,8\}$ (ii) $\{4,3,2,7,8,0\}$ (iii) $\{0,4,3,1,7\}$ (iv) $\{3,8,4,0\}$ (v) $\{1,5,4,8,7,3\}$
5. If $\mu = \{-4,1,-1,9,2,0,-6,8,3,5\}$, $A = \{-4,1,-1,9\}$ and $B = \{9,2,0\}$, find $n((A \cup B) - (A \cap B))$
(i) 5 (ii) 2 (iii) 8 (iv) 6 (v) 4
6. If $\mu = \{-8,-9,4,3,-6,9,5,-7,2,6,8,-4,-5,1,-3\}$, $A = \{-8,-9,4,3,-6,9\}$ and $B = \{5,-6,-7,3,2\}$, find $A - B$
(i) $\{-8,9,4\}$ (ii) $\{\}$ (iii) $\{9,6,-8,-9\}$ (iv) $\{9,-9,-8,4\}$ (v) $\{-8,-9,9,-5,4\}$
7. If $\mu = \{11,10,17,13,-4,19,0,-1,15,8,-7,3,14,-9,-6,-8,1,9,5,2,7,-3\}$, $A = \{11,10,17,13,-4,19,0,-1,15\}$, $B = \{8,-7,-1,15,3,13,14,10,19\}$, $C = \{-9,-6,8,0,-8,1,19,3,17,9\}$, find $B - (C \cup A)$
(i) $\{-7\}$ (ii) $\{14\}$ (iii) $\{-7,17\}$ (iv) $\{-7,14\}$ (v) $\{-7,14,17\}$
8. Which of the following elements does not belong to the set $\{4,1,8,9,5\}$?
(i) 4 (ii) 5 (iii) 6 (iv) 1 (v) 9
9. Which of the following is not a superset of $A = \{8,7,4,2,3,6\}$?
(i) $\{8,2,3,7,4,0,6\}$ (ii) $\{4,3,5,2,8,7\}$ (iii) $\{7,8,2,6,3,4\}$ (iv) $\{6,7,5,8,2,4,3\}$ (v) $\{6,3,4,2,8,7,9\}$
10. If $A = \{4,7,12\}$, $B = \{4,13,6\}$ and $C = \{1,14,4,15\}$, then $B \cup (C \cup A) =$
(i) $\{4,15,12,1,13,7,14\}$ (ii) $\{15,6,13,4,1,7,12\}$ (iii) $\{13,14,15,12,4,1,7,6,19\}$ (iv) $\{13,6,15,1,12,14,4\}$
(v) $\{14,6,4,1,7,12,13,15\}$
11. Which of the following is a null set?
(i) $\{\emptyset\}$ (ii) $\{\text{empty}\}$ (iii) $\{0\}$ (iv) $\{o\}$ (v) \emptyset
12. If $A = \{6,1,12,2,7,0,13,4\}$, $B = \{3,13,7,15,9,6,11,8\}$ and $C = \{9,11,3,5,7,13,15,10\}$, then $A \cap (B \cap C) =$
(i) $\{17,13,7\}$ (ii) $\{4,7,13\}$ (iii) $\{7,13,8\}$ (iv) $\{7,5,13\}$ (v) $\{7,13\}$
13. If $A = \{14,7,5\}$, $B = \{12,1,8\}$ and $C = \{10,7,3,2\}$, then $A \cup (B \cup C) =$
(i) $\{\}$ (ii) $\{1,5,2,3,14,8,7,12\}$ (iii) $\{2,14,7,10,1,12,8,5,3\}$ (iv) $\{12,14,5,10,1,3,7,2\}$
(v) $\{10,3,8,20,1,7,2,5,12,14\}$

14. Which of the following is the power set of $A = \{0\}$?

- (i) $\{\}$ (ii) $\{4,0\}$ (iii) $\{\{\}\}$ (iv) $\{\{\}\{0\}\}$

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

15. $D = \{13,12,16,11,18,17,19\}$ and $E = \{1,6,3,10,9,5,8,4,2,7\}$,
which of the following are true?

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

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

16. If $A = \{5,15,0,13\}$, $B = \{12,9,7\}$ and $C = \{2,5,8\}$, then $B \cup (C \cup A) =$

- (i) $\{15,2,0,8,12,7,9,5\}$ (ii) $\{16,2,15,12,8,13,9,7,5,0\}$ (iii) $\{2,0,15,7,13,5,8,12\}$ (iv) $\{5,12,15,13,0,9,7,8\}$
(v) $\{9,2,0,12,15,7,5,13,8\}$

17. If $A = \{1,7,6,0,9\}$ and $\mu = \{1,7,6,0,9,2,-1,4\}$, find $(A')'$

- (i) $\{1,8,-1,11,6\}$ (ii) $\{0,7,1,5,-1,6,9\}$ (iii) $\{9,0,7,1,6\}$ (iv) $\{9,7,0,3,6\}$ (v) $\{6,0,9,7\}$

18. If $\mu = \{2,3,-4,16,17,-5,10,-7,4,1,9,13,7,-8,8,12,0,-1,18,5,11,-6,-2\}$, $A = \{2,3,-4,16,17,-5,10,-7,4,1\}$, $B = \{1,9,13,7,-8,2,16,8\}$, $C = \{-4,9,12,17,10,13,7,4,2\}$, find $B \cap C$

- (i) $\{13,9,2,7,-8\}$ (ii) $\{13,9,2,7\}$ (iii) $\{9,2,7,-8\}$ (iv) $\{9,2,7\}$ (v) $\{13,2,7\}$

19. If $\mu = \{12,-6,-4,10,-9,-5,4,8,3,1,5,-1,-7,0,-8,2,-2,7,-3,9\}$, $A = \{12,-6,-4,10,-9,-5\}$, $B = \{-5,4,8,3,-4,1,-6\}$, $C = \{5,4,-4,-1,1,-7,10,0,3\}$, find $(C \cap A)'$

- (i) $\{12,-9,-2,4,2,-7,1,3,-1,-5,7,-8,-6,8,9,-3,0\}$ (ii) $\{12,-9,5,-2,4,2,-7,1,3,-1,-5,7,-8,-6,8,9,-3,0,10\}$
(iii) $\{12,-9,5,-2,4,2,-7,1,3,-1,-5,7,-8,-6,8,9,-3,0\}$ (iv) $\{12,-9,5,-2,4,2,-7,1,3,-1,-5,7,-8,8,9,-3,0\}$
(v) $\{12,-9,5,-2,4,2,-7,1,3,-1,-5,7,-8,8,9,-3,0,10\}$

20. Which of the following is 'minus' symbol?

- (i) \in (ii) \subseteq (iii) $-$ (iv) \leftrightarrow (v) \supset

21. If $A = \{7,2,-7,4,0\}$ and $\mu = \{7,2,-7,4,0,-9,-6,-8\}$, find $A \cap \mu$

- (i) $\{1,-7,0,2,7,4,-1\}$ (ii) $\{-7,0,12,4,2\}$ (iii) $\{2,0,4,-7\}$ (iv) $\{4,0,2,7,-7\}$ (v) $\{0,-5,8,4,2\}$

22. Which of the following is an infinite set?

- (i) $\{\}$ (ii) $\{0,1,2,3,4,5,6,7,8,\dots\}$ (iii) $\{-4,-7\}$ (iv) $\{3\}$ (v) $\{-5,1,4\}$

23. If $A = \{9,10,5\}$, $B = \{5,3,15\}$ and $C = \{11,10,8\}$, then $C \cup (A \cup B) =$

- (i) $\{10,5,3,11,15,8\}$ (ii) $\{15,11,17,9,10,3,5,8\}$ (iii) $\{9,10,3,5,11,15\}$ (iv) $\{10,11,3,5,9,8,15\}$
(v) $\{10,11,3,5,8,9\}$

24. If $\mu = \{4,5,3,-4,6,-1,1,-2,-3,-8,9\}$, $A = \{4,5,3\}$ and $B = \{-4,6,-1,1,-2,5\}$, find A'

- (i) $\{9,-8,-3,1,6,-4,-1\}$ (ii) $\{\}$ (iii) $\{-2,-4,-1,1,6,-3,-8,9\}$ (iv) $\{-2,-1,-4,-8,6,1,-3\}$

25. Which of the following is not a subset of $A = \{7,6,1,9,8,2,4\}$?

- (i) $\{7,1,2,9,6,8\}$ (ii) $\{1,2,8,4,7\}$ (iii) $\{6,9,4,7,2,8\}$ (iv) $\{6,1,4,9,3,8\}$ (v) $\{7,6,1,9,8,2,4\}$

Assignment Key

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