



MATHS

BOOKS - MBD MATHS (ODIA ENGLISH)

SETS

Question Bank

1. Construct Collection of all the days of a week in the form of set and

describe it with the help of proposition.



2. Construct Collection of writing instruments in the form of set and

describe it with the help of proposition.

3. Construct Collection of all kings having more than one queens in the

form of set and describe it with the help of proposition.



4. Construct Collection of all the nationalised political parties in the

form of set and describe it with the help of proposition.

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5. Construct Collection of all integers of multiples of 3 in the form of

set and describe it with the help of proposition.

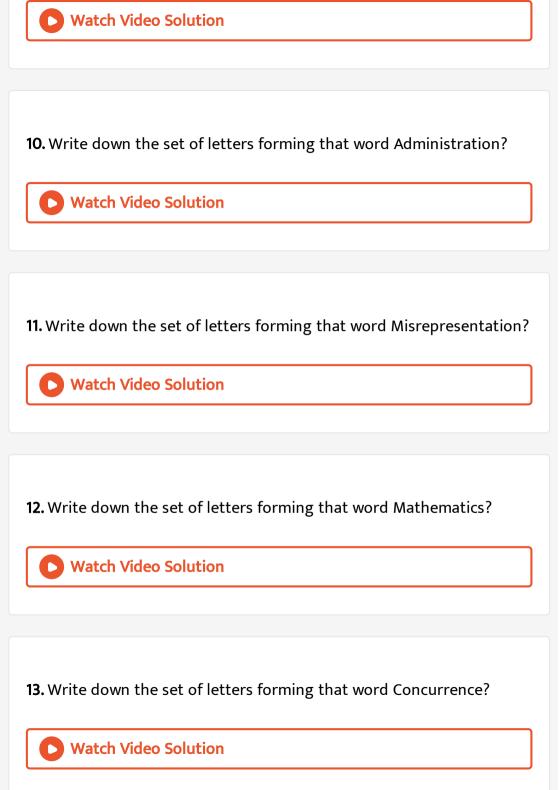
6. Construct Collection of all fingers of a hand in the form of set and

describe it with the help of proposition.

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7. Give an example of a set which has exactly 10 elements and express it through a defining property.
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8. It is possible to express every set through a defining property? Justify your answer.
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9. If $\{x\!:\!p_1(x)\}=\{x\!:\!p_2(x)\}$, show each $x,p_1(x)$ and $p_2(x)$ have the

same truth value.



14. Write down the set of letters forming that word Demonstration?

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15. State with reason, "All big rivers of India" is set or not ?
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16. State with reason, "All natural numbers having at least one prime
factor " is set or not ?
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17. State with reason,"All sincere students of Ravenshaw college during

the academic year 1998-99 " is set or not ?

18. State with reason, "All real number with negative square " is set or

not?

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19. State with reason, "All citizens of india earning more than Rs.10,000/- per month " is set or not ?

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20. State with reason, " All college teachers who are citizens of India " is

set or not?

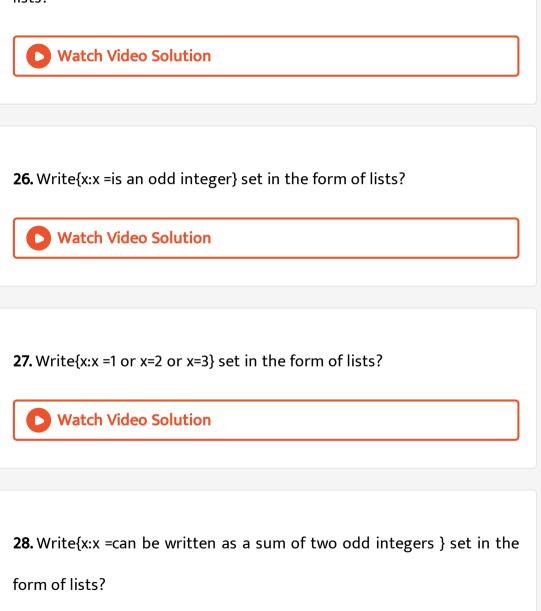
21. State with reason, "All finite subsets of the set Z of integers " is set

or not ?



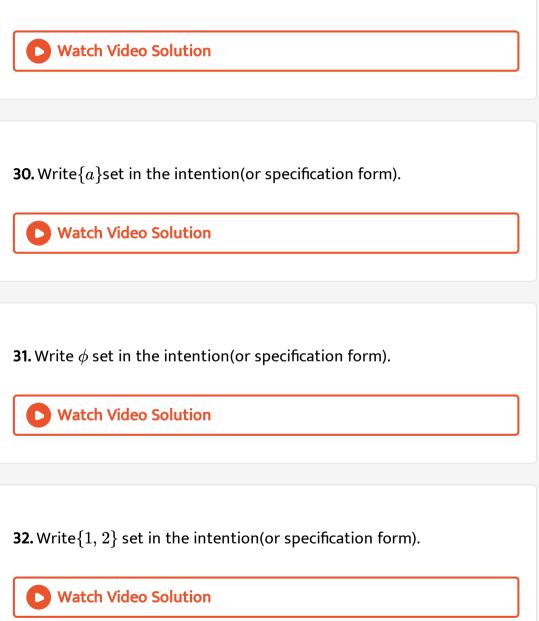
25. Write{x:x is a prime number and $1 \le x \le 100$ } set in the form of

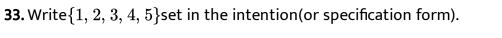
lists?

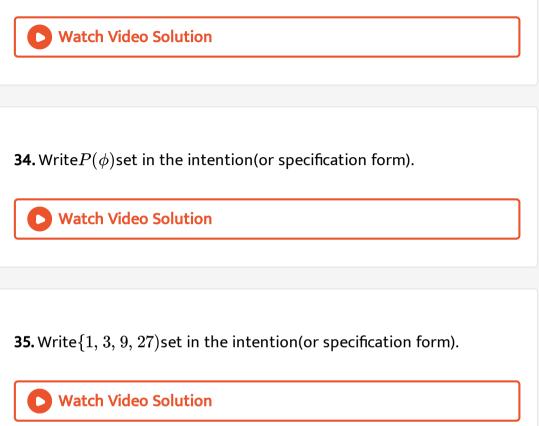


29. Write"Set of all natural numbers that are divisible by 5 " set in the

form of lists?







36. Determine if the set A={1,2,3....}is a proper subset of the set B={x:x is

a rational number}

37. Determine if the set $A = x : xisa' \nu mber$ is a proper subset of the

set
$$B = \{2n - 1 : n = 1, 2, 3....\}$$



38. Determine if the set A ={-1,1,3}is a proper subset of the set B=

 $\{x\!:\!x\in R$ and $x^3-2x^2-x+2=0\}$

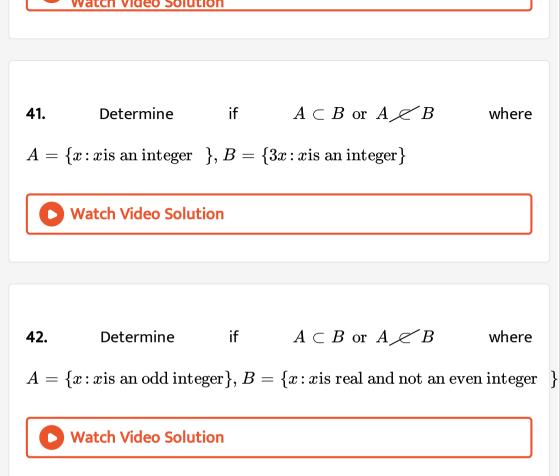
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39. Determine if the set $A = \{1, 2, 3, 4\}$ is a proper subset of the set B=

 $\{n\in N, \mathsf{n} ext{ is a divisor of 60}\}$

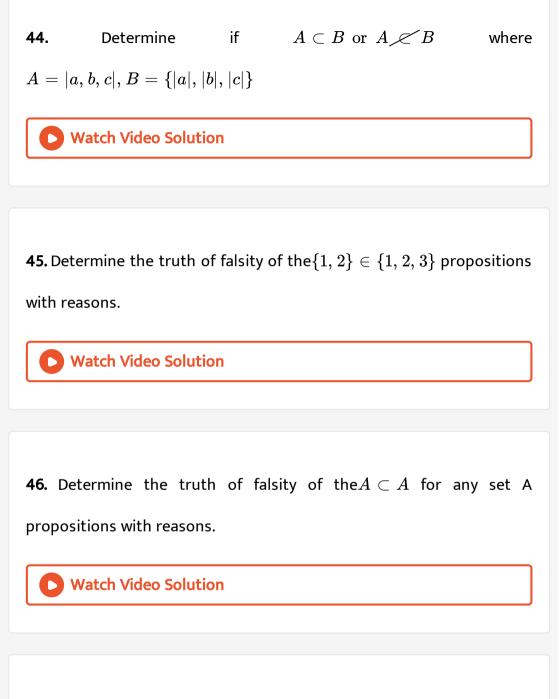
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40. Determine if $A \subset B \,\, {
m or} \,\, A$, $\not \subset B$ where $A = \phi, B = \{\phi\}$



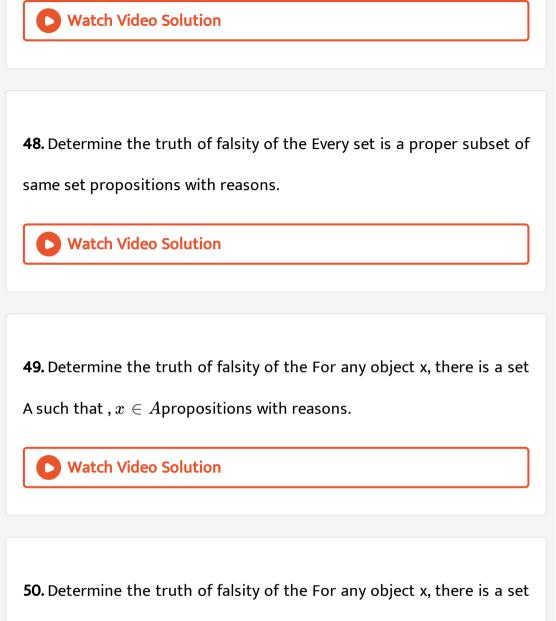
43. Determine if $A \subset B$ or $A \swarrow B$ where A={x : x is an integer which

is both even and odd"},B ={x:x is an integer, $x \neq x$ }



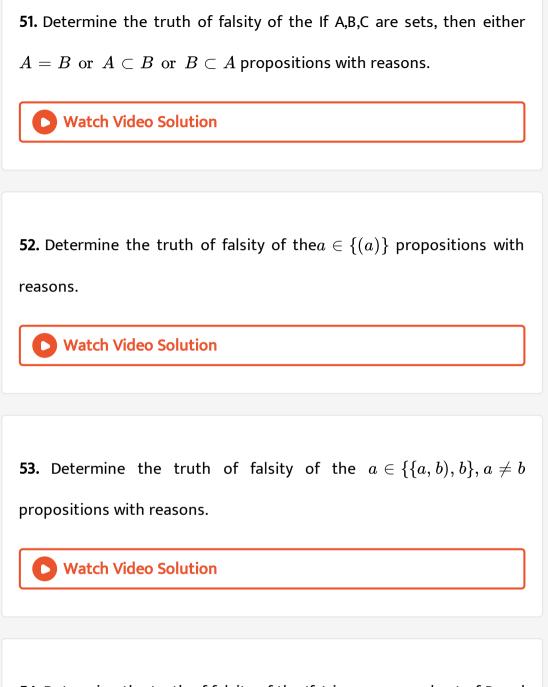
47. Determine the truth of falsity of the "Every set has a proper subset"

propositions with reasons.



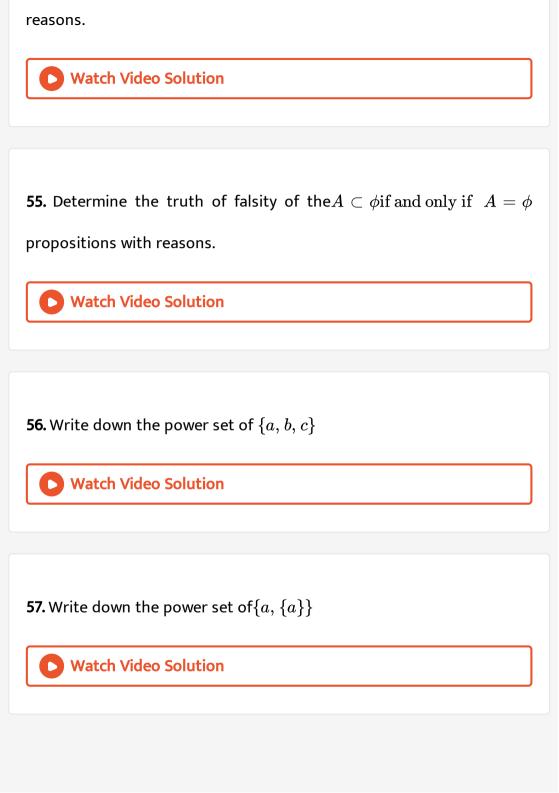
a such that, $x \not\in A$ propositions with reasons.

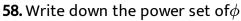


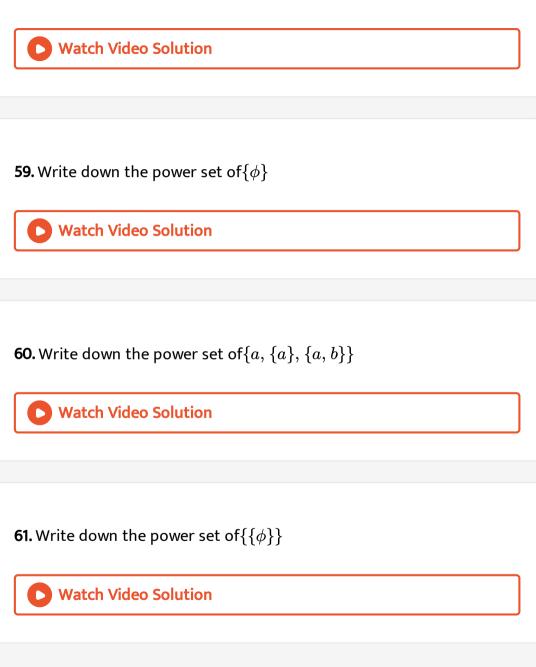


54. Determine the truth of falsity of the If A is a proper subset of B and

B is a subset of C Then A is a proper subset of C propositions with



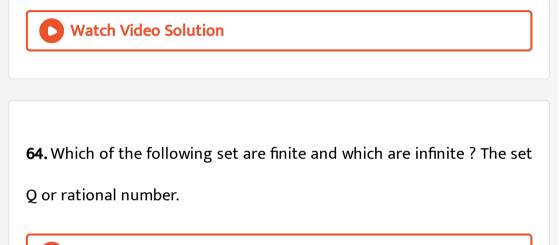




62. The set N of positive natural number set is finite set or infinite set?

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63. Which sets are finite and which are infinite The set Z of integers



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65. Which of the following set are finite and which are infinite ?The set

R of real number.

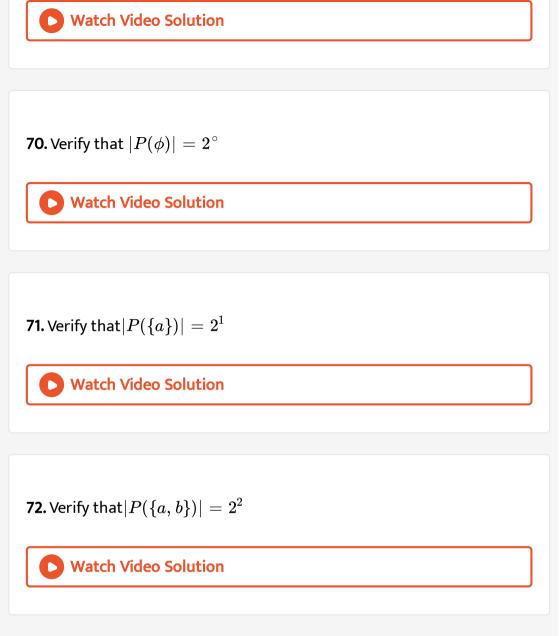
66. Which of the following set are finite and which are infinite ?The set

of prime number .

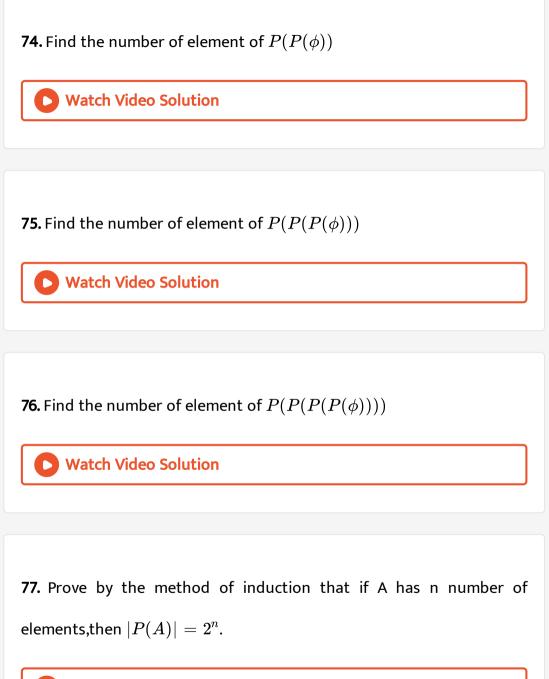
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67. Which of the following set are finite and which are infinite ? The set of even integers.
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68. Which of the following set are finite and which are infinite ? The set of human beings
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69. Which of the following set are finite and which are infinite ?The set

of integers less than 10.



73. Verify that $|P(\{a,b,c\})|=2^3$



78. Can you say how many elements P(P(A)) If A has n elements?

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79. An examination was conducted in physics, chemistry and mathematics. If P.C.M. denote respectively the sets of students who passed in Physics, in Chemistry and in Mathematics, express the set of candidates who passed in Mathematics and Chemistry , but not in physics using union , intersection and different symbols.

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80. An examination was conducted in physics, chemistry and mathematics. If P.C.M. denote respectively the sets of students who passed in Physics, in Chemistry and in Mathematics, express the set of candidates who passed in all the three subjects using union , intersection and different symbols.

81. An examination was conducted in physics, chemistry and mathematics. If P.C.M. denote respectively the sets of students who passed in Physics, in Chemistry and in Mathematics, express the set of candidates who passed in Mathematics only using union , intersection and different symbols.

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82. An examination was conducted in physics, chemistry and mathematics. If P.C.M. denote respectively the sets of students who passed in Physics, in Chemistry and in Mathematics, express the set of candidates who failed in Mathematics but passed in at least one subject using union, intersection and different symbols.

83. An examination was conducted in physics, chemistry and mathematics. If P.C.M. denote respectively the sets of students who passed in Physics, in Chemistry and in Mathematics, express the set of candidates who passed in at least two subjects using union , intersection and different symbols.

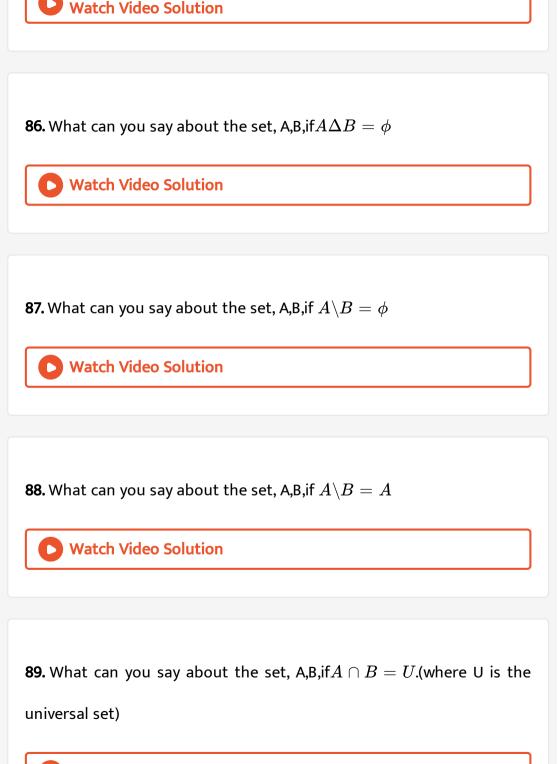
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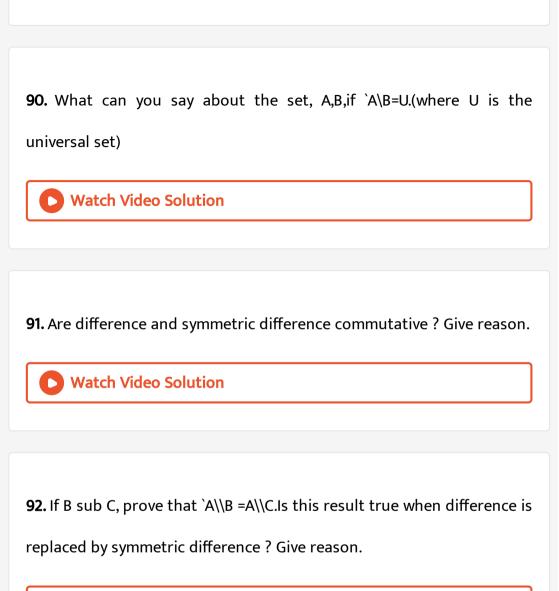
84. An examination was conducted in physics, chemistry and mathematics. If P.C.M. denote respectively the sets of students who passed in Physics, in Chemistry and in Mathematics, express the set of candidates who failed in one subject only using union , intersection and different symbols.

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85. What can you say about the set, A,B,if $A\cup B=\phi$





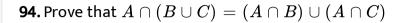


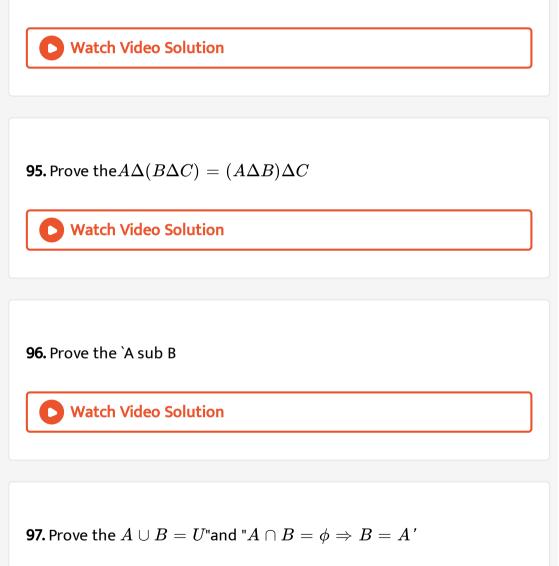


93. Prove that $(A ackslash B) ackslash C = (A ackslash C) ackslash B = A ackslash (B \cup C)$









98. Prove the $A\cup B=A$ for all $A\Rightarrow B=\phi$



99. Prove the $A \cup B = B \cup A$ results of the sections 1.13 and 1.14 that

are stated with our proof.

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100. Prove the $A \cap B = B \cap A$ results of the sections 1.13 and 1.14 that

are stated with our proof.



101. Prove that $A \cap (B \cup C) = (A \cap B) \cup (A \cap C)$

102. Prove that
$$A - igcup_{i=1}^n B_i = igcap_{i=1}^n (A - B_i)$$

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103. Prove that $|A \cup B \cup C|$

 $=|A|+|B|+|C|+A\cap B\cap C|-|A\cap B|-|B\cap C|-|C\cap A|$

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104. If X and Y are two sets such that $X \cup Y$ has 20 objects, X has 10

objects and Y has 15 objects; how many objects does $X \cap Y$ have ?



105. In a group of 450 people, 300 can speak Hindi and 250 can speak

English. How many people can speak both Hindi and English?

106. In a group of people, 37 like coffee, 52 like tea and each person in the group likes at least one of the two drinks. 19 people like both tea and coffee, how many people are in the group?

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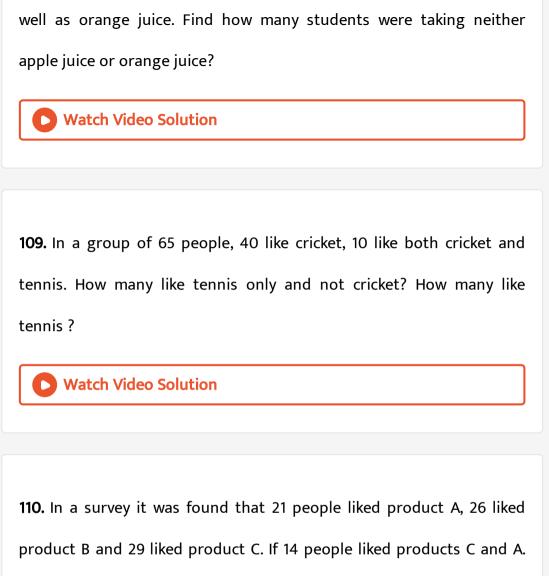
107. In a class of 35 students, each student likes to play either cricket or

hockey . 24 students like to play cricket and 5 students like to play both

the games, how many students play hockey?

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108. In a class of 400 Students, 100 were listed as taking apple juice, 150 as taking orange juice and 75 were listed as taking both apple as



14 people liked products B and C And 8 liked all the three products, find how many liked products C only.