NCERT Solutions Class 11 Maths
Chapter 1: Sets
EXERCISE 1.4

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Quick Summary: In NCERT Solutions Class 11 Maths Chapter 1 Exercise 1.4, students learn fundamental operations on sets including union, intersection, and complement operations. This exercise covers De Morgan's Laws and algebra of sets which are essential for building a strong foundation in set theory and form the basis for many CBSE board exam questions in probability and mathematical reasoning.

Key Takeaways:

- De Morgan's Laws: (A \cup B)' = A' \cap B' and (A \cap B)' = A' \cup B'
- Union of sets A \cup B contains all elements from both sets without repetition
- Intersection of sets A \cap B contains only common elements between the sets
- Understanding subset relationships and their properties is crucial for solving complex set theory problems

Complete Solutions

Question 1

QUESTION

Find the union of each of the following pairs of sets:

(i) X = \1, 3, 5\,\ Y = \1, 2, 3\
(ii) A = \a, e, i, o, u\,\ B = \a, b, c\
(iii) A = \x : x \text is a natural number and multiple of 3\,\ B = \x : x \text is a natural number less than 6\
(iv) A = \x : x \text is a natural number and 1 < x \le 6\,\ B = \x : x \text is a natural number and 6 < x < 10\
(v) A = \1, 2, 3\,\ B = \varphi

SOLUTION

This question tests the understanding of the union of sets. The union of two sets is a set containing all elements of both sets.

(i)

Step 1: Identify elements in set X

Set X contains the elements 1, 3, and 5.

Step 2: Identify elements in set Y

Set Y contains the elements 1, 2, and 3.

Step 3: Combine the elements, removing duplicates

The union of X and Y, denoted as , contains all elements from both sets. We include each element only once.

Final Answer:

(ii)

Step 1: Identify elements in set A

Set A contains the elements a, e, i, o, and u.

Step 2: Identify elements in set B

Set B contains the elements a, b, and c.

Step 3: Combine the elements, removing duplicates

The union of A and B, denoted as , contains all elements from both sets. We include each element only once.

Final Answer:

(iii)

Step 1: List elements of set A

Set A contains multiples of 3:

Step 2: List elements of set B

Set B contains natural numbers less than 6:

Step 3: Combine the elements

The union of A and B, denoted as , contains all elements from both sets.

Step 4: Express in set-builder notation

Final Answer:

(iv)

Step 1: List elements of set A

Set A contains natural numbers greater than 1 and less than or equal to 6:

Step 2: List elements of set B

Set B contains natural numbers greater than 6 and less than 10:

Step 3: Combine the elements

The union of A and B, denoted as , contains all elements from both sets.

Step 4: Express in set-builder notation

Final Answer:

(v)

Step 1: Identify elements in set A

Set A contains the elements 1, 2, and 3.

Step 2: Identify elements in set B

Set B is the empty set, denoted as , which contains no elements.

Step 3: Combine the elements

The union of A and B, denoted as , contains all elements from both sets. Since B has no elements, the union is simply A.

Final Answer:

ANSWER

(i) X \cup Y = \1, 2, 3, 5\

(ii) A \cup B = \a, b, c, e, i, o, u\

(iii) A \cup B = \x : x = 1, 2, 4, 5 \text or a multiple of 3\

(iv) A \cup B = \x : 1 < x < 10,\ x \in \mathbbN\

(v) A \cup B = \1, 2, 3\

Question 2

QUESTION

Let A = \a, b\,\ B = \a, b, c\. Is A \subset B? What is A \cup B?

SOLUTION

This question tests our understanding of subsets and unions of sets.

Step 1: Understanding Subsets

A set is a subset of a set (denoted as) if every element of is also an element of . In other words, if implies , then is a subset of .

Given and , we need to check if all elements of are present in .

The elements of are and . Both and are also elements of .

Therefore, is true.

Step 2: Understanding Unions

The union of two sets and (denoted as) is the set containing all elements that are in , in , or in both. We combine the elements of both sets, removing any duplicates.

Given and , we need to find .

The elements in are .

The elements in are .

Combining these, we get . Removing duplicates, we have .

Therefore, .

Final Answer:

Yes, and .

ANSWER

Yes, A \subset B and A \cup B = \a, b, c\.

Question 3

QUESTION

If A and B are two sets such that A \subset B, then what is A \cup B?

SOLUTION

This question tests the understanding of set theory, specifically the concepts of subsets and union of sets.

Step 1: Understand the meaning of

The notation means that set is a subset of set . This implies that every element in set is also an element in set .

Step 2: Understand the meaning of

The notation represents the union of sets and . The union of two sets is a new set that contains all the elements that are in , in , or in both.

Step 3: Visualize with an example

Let's say and . Clearly, because all elements of are also in .

Now, , which is equal to .

Step 4: Generalize the result

Since is a subset of , all elements of are already included in . Therefore, when we take the union of and , we are essentially adding the elements of to , but since all elements of are already in , the union simply results in the set itself.

Step 5: State the final answer

Therefore, if , then .

ANSWER

A \cup B = B.

Question 4

QUESTION

If A = \1, 2, 3, 4\,\ B = \3, 4, 5, 6\,\ C = \5, 6, 7, 8\ and D = \7, 8, 9, 10\, find:

(i) A \cup B
(ii) A \cup C
(iii) B \cup C
(iv) B \cup D
(v) A \cup B \cup C
(vi) A \cup B \cup D
(vii) B \cup C \cup D

SOLUTION

This question tests our understanding of the union of sets. The union of two or more sets contains all the elements from each of the sets, with no repetitions.

(i)

We need to find all elements in set or set or both.

and

Combining the elements and removing duplicates, we get:

(ii)

We need to find all elements in set or set or both.

and

Combining the elements, we get:

(iii)

We need to find all elements in set or set or both.

and

Combining the elements and removing duplicates, we get:

(iv)

We need to find all elements in set or set or both.

and

Combining the elements, we get:

(v)

We need to find all elements in set , , or .

Combining the elements and removing duplicates, we get:

(vi)

We need to find all elements in set , , or .

Combining the elements and removing duplicates, we get:

(vii)

We need to find all elements in set , , or .

Combining the elements and removing duplicates, we get:

ANSWER

(i) \1, 2, 3, 4, 5, 6\

(ii) \1, 2, 3, 4, 5, 6, 7, 8\

(iii) \3, 4, 5, 6, 7, 8\

(iv) \3, 4, 5, 6, 7, 8, 9, 10\

(v) \1, 2, 3, 4, 5, 6, 7, 8\

(vi) \1, 2, 3, 4, 5, 6, 7, 8, 9, 10\

(vii) \3, 4, 5, 6, 7, 8, 9, 10\

Question 5

QUESTION

Find the intersection of each pair of sets of Question 1 above.

SOLUTION

This question asks us to find the intersection of the pairs of sets defined in Question 1. Recall that the intersection of two sets is the set containing all elements common to both sets.

(i) The sets are and .

Step 1: Identify common elements

The elements that are present in both and are 1 and 3.

Step 2: Form the intersection set

Therefore, the intersection of and is .

Final Answer:

(ii) The sets are and .

Step 1: Identify common elements

The only element that is present in both and is .

Step 2: Form the intersection set

Therefore, the intersection of and is .

Final Answer:

(iii) The sets are is a natural number and a multiple of 3 and is a natural number less than 6.

Let's list the elements of these sets:

Step 1: Identify common elements

The only element that is present in both and is 3.

Step 2: Form the intersection set

Therefore, the intersection is .

Final Answer:

(iv) The sets are is a natural number and and is a natural number and .

Let's list the elements of these sets:

Step 1: Identify common elements

There are no elements that are present in both and .

Step 2: Form the intersection set

Therefore, the intersection is the empty set, denoted by .

Final Answer:

(v) The sets are and .

Step 1: Identify common elements

The set contains the numbers 1, 2, and 3. The set contains only the empty set as an element.

There are no common elements between and .

Step 2: Form the intersection set

Therefore, the intersection is the empty set, denoted by .

Final Answer:

ANSWER

(i) X \cap Y = \1, 3\

(ii) A \cap B = \a\

(iii) \3\

(iv) \varphi

(v) \varphi

Question 6

QUESTION

If A = \3, 5, 7, 9, 11\,\ B = \7, 9, 11, 13\,\ C = \11, 13, 15\ and D = \15, 17\, find:

(i) A \cap B
(ii) B \cap C
(iii) A \cap C \cap D
(iv) A \cap C
(v) A \cap D
(vi) A \cap (B \cup D)
(vii) A \cap D
(viii) A \cap (B \cup D)
(ix) (A \cap B) \cap (B \cup C)
(x) (A \cup D) \cap (B \cup C)

SOLUTION

This question tests our understanding of set operations, specifically intersection () and union (). We need to find the resulting sets after performing these operations on the given sets A, B, C, and D.

(i)

The intersection of two sets contains elements that are common to both sets. We look for elements present in both and .

The common elements are 7, 9, and 11.

Therefore, .

(ii)

We need to find the common elements between and .

The common elements are 11 and 13.

Therefore, .

(iii)

This requires finding the elements common to all three sets: , , and .

First, let's find . The only common element is 11, so .

Now, we find the intersection of and . There are no common elements.

Therefore, (the empty set).

(iv)

We need to find the common elements between and .

The only common element is 11.

Therefore, .

(v)

We need to find the common elements between and .

There are no common elements.

Therefore, (the empty set).

(vi)

First, find . The union of two sets contains all elements from both sets: and .

.

Now, find the intersection of and .

The common elements are 7, 9, and 11.

Therefore, .

(vii)

This is the same as part (v). We need to find the common elements between and .

There are no common elements.

Therefore, (the empty set).

(viii)

This is the same as part (vi). First, find . The union of two sets contains all elements from both sets: and .

.

Now, find the intersection of and .

The common elements are 7, 9, and 11.

Therefore, .

(ix)

From part (i), we know .

Now, find . The union of two sets contains all elements from both sets: and .

.

Now, find the intersection of and .

The common elements are 7, 9, and 11.

Therefore, .

(x)

First, find . The union of two sets contains all elements from both sets: and .

.

Next, find . The union of two sets contains all elements from both sets: and .

.

Now, find the intersection of and .

The common elements are 7, 9, 11, and 15.

Therefore, .

ANSWER

(i) \7, 9, 11\

(ii) \11, 13\

(iii) \varphi

(iv) \11\

(v) \varphi

(vi) \7, 9, 11\

(vii) \varphi

(viii) \7, 9, 11\

(ix) \7, 9, 11\

(x) \7, 9, 11, 15\

Question 7

QUESTION

If A = \x : x \text is a natural number\, B = \x : x \text is an even natural number\, C = \x : x \text is an odd natural number\ and D = \x : x \text is a prime number\, find:

(i) A \cap B
(ii) A \cap C
(iii) A \cap D
(iv) B \cap C
(v) B \cap D
(vi) C \cap D

SOLUTION

This question tests our understanding of set operations, specifically the intersection of sets, using sets of natural numbers, even numbers, odd numbers, and prime numbers.

(i)

Step 1: Define the sets and .

(set of all natural numbers)

(set of all even natural numbers)

Step 2: Find the intersection .

The intersection of two sets contains elements that are common to both sets. Since every even natural number is also a natural number, all elements of are also in .

Therefore, .

Final Answer:

(ii)

Step 1: Define the sets and .

(set of all natural numbers)

(set of all odd natural numbers)

Step 2: Find the intersection .

The intersection of two sets contains elements that are common to both sets. Since every odd natural number is also a natural number, all elements of are also in .

Therefore, .

Final Answer:

(iii)

Step 1: Define the sets and .

(set of all natural numbers)

(set of all prime numbers)

Step 2: Find the intersection .

The intersection of two sets contains elements that are common to both sets. Since every prime number is also a natural number, all elements of are also in .

Therefore, .

Final Answer:

(iv)

Step 1: Define the sets and .

(set of all even natural numbers)

(set of all odd natural numbers)

Step 2: Find the intersection .

Even numbers and odd numbers have no elements in common.

Therefore, (the empty set).

Final Answer:

(v)

Step 1: Define the sets and .

(set of all even natural numbers)

(set of all prime numbers)

Step 2: Find the intersection .

The only even prime number is 2.

Therefore, .

Final Answer:

(vi)

Step 1: Define the sets and .

(set of all odd natural numbers)

(set of all prime numbers)

Step 2: Find the intersection .

The set will contain all prime numbers that are also odd. Since 2 is the only even prime number, all other prime numbers are odd.

Therefore, .

Final Answer:

ANSWER

(i) B

(ii) C

(iii) D

(iv) \varphi

(v) \2\

(vi) \x : x \text is an odd prime number\

Question 8

QUESTION

Which of the following pairs of sets are disjoint?

(i) \1, 2, 3, 4\ and \x : x \text is a natural number and 4 \le x \le 6\
(ii) \a, e, i, o, u\ and \c, d, e, f\
(iii) \x : x \text is an even integer\ and \x : x \text is an odd integer\

SOLUTION

We need to determine which of the given pairs of sets are disjoint. Two sets are disjoint if they have no elements in common.

(i) and

Step 1: Express the second set in roster form.

The second set contains natural numbers such that . This means the set is .

Step 2: Compare the two sets.

The first set is and the second set is . The element 4 is common to both sets.

Step 3: Conclude whether the sets are disjoint.

Since the element 4 is common to both sets, they are *not* disjoint.

(ii) and

Step 1: Compare the two sets.

The first set is and the second set is . The element 'e' is common to both sets.

Step 2: Conclude whether the sets are disjoint.

Since the element 'e' is common to both sets, they are *not* disjoint.

(iii) and

Step 1: Understand the nature of even and odd integers.

An even integer is any integer that is divisible by 2. An odd integer is any integer that is not divisible by 2.

Step 2: Consider if any integer can be both even and odd.

No integer can be both even and odd. By definition, an integer is either divisible by 2 (even) or not divisible by 2 (odd). There is no overlap.

Step 3: Conclude whether the sets are disjoint.

Since no integer can be both even and odd, the two sets have no elements in common. Therefore, they *are* disjoint.

Final Answer: Only pair (iii) is disjoint.

ANSWER

Only pair (iii) is disjoint.

Question 9

QUESTION

If A = \3, 6, 9, 12, 15, 18, 21\,\ B = \4, 8, 12, 16, 20\,\ C = \2, 4, 6, 8, 10, 12, 14, 16\,\ D = \5, 10, 15, 20\, find:

(i) A - B
(ii) A - C
(iii) A - D
(iv) B - A
(v) C - A
(vi) D - A
(vii) B - C
(viii) C - B
(ix) C - D
(x) D - B
(xi) C - D
(xii) D - C

SOLUTION

This question tests the understanding of set difference. The set difference is the set of elements that are in but not in .

(i)

We need to find elements in that are not in .

The element 12 is present in both sets, so we remove it from . The remaining elements are in .

(ii)

We need to find elements in that are not in .

The elements 6 and 12 are present in both sets, so we remove them from . The remaining elements are in .

(iii)

We need to find elements in that are not in .

The element 15 is present in both sets, so we remove it from . The remaining elements are in .

(iv)

We need to find elements in that are not in .

The element 12 is present in both sets, so we remove it from . The remaining elements are in .

(v)

We need to find elements in that are not in .

The elements 6 and 12 are present in both sets, so we remove them from . The remaining elements are in .

(vi)

We need to find elements in that are not in .

The element 15 is present in both sets, so we remove it from . The remaining elements are in .

(vii)

We need to find elements in that are not in .

The elements 4, 8, 12 and 16 are present in both sets, so we remove them from . The remaining element is in .

(viii)

We need to find elements in that are not in .

The elements 4, 8, 12 and 16 are present in both sets, so we remove them from . The remaining elements are in .

(ix)

We need to find elements in that are not in .

The element 10 is present in both sets, so we remove it from . The remaining elements are in .

(x)

We need to find elements in that are not in .

The element 20 is present in both sets, so we remove it from . The remaining elements are in .

(xi)

We need to find elements in that are not in .

The element 10 is present in both sets, so we remove it from . The remaining elements are in .

(xii)

We need to find elements in that are not in .

The element 10 is present in both sets, so we remove it from . The remaining elements are in .

ANSWER

(i) \3, 6, 9, 15, 18, 21\

(ii) \3, 9, 15, 18, 21\

(iii) \3, 6, 9, 12, 18, 21\

(iv) \4, 8, 16, 20\

(v) \2, 4, 8, 10, 14, 16\

(vi) \5, 10, 20\

(vii) \20\

(viii) \4, 8, 12, 16\

(ix) \2, 6, 10, 14\

(x) \5, 10, 15\

(xi) \2, 4, 6, 8, 12, 14, 16\

(xii) \5, 15, 20\

Question 10

QUESTION

If X = \a, b, c, d\ and Y = \f, b, d, g\, find:

(i) X - Y
(ii) Y - X
(iii) X \cap Y

SOLUTION

This question tests our understanding of set operations, specifically set difference and intersection.

(i) Finding

The set contains all elements that are in but not in . We need to identify the elements in that are not present in .

Step 1: List the elements of and

Step 2: Identify elements in that are not in

Comparing the two sets, we see that:

- is in but not in
- is in both and
- is in but not in
- is in both and

Step 3: Write the resulting set

Therefore,

(ii) Finding

The set contains all elements that are in but not in . We need to identify the elements in that are not present in .

Step 1: List the elements of and

Step 2: Identify elements in that are not in

Comparing the two sets, we see that:

- is in but not in
- is in both and
- is in both and
- is in but not in

Step 3: Write the resulting set

Therefore,

(iii) Finding

The set (read as "X intersection Y") contains all elements that are common to both and .

Step 1: List the elements of and

Step 2: Identify common elements

Comparing the two sets, we find the common elements:

- is in both and
- is in both and

Step 3: Write the resulting set

Therefore,

ANSWER

(i) \a, c\

(ii) \f, g\

(iii) \b, d\

Question 11

QUESTION

If R is the set of real numbers and Q is the set of rational numbers, then what is R - Q?

SOLUTION

This question tests your understanding of sets of numbers, specifically real, rational, and irrational numbers, and the set difference operation.

Step 1: Define the sets R and Q

is the set of all real numbers. Real numbers include all rational and irrational numbers.

is the set of all rational numbers. Rational numbers can be expressed in the form , where and are integers and .

Step 2: Understand the set difference operation

The set difference (read as "R minus Q") represents the set of all elements that are in but not in .

In other words, we start with the set of real numbers and remove all the rational numbers.

Step 3: Identify what remains after removing rational numbers from real numbers

Since real numbers consist of both rational and irrational numbers, removing the rational numbers from the real numbers leaves only the irrational numbers.

Irrational numbers are real numbers that *cannot* be expressed in the form , where and are integers and . Examples include , , and .

Step 4: State the final answer

Therefore, is the set of irrational numbers.

Final Answer: is the set of irrational numbers.

ANSWER

R - Q is the set of irrational numbers.

Question 12

QUESTION

State whether each of the following statement is true or false. Justify your answer.

(i) \2, 3, 4, 5\ and \3, 6\ are disjoint sets.
(ii) \a, e, i, o, u\ and \a, b, c, d\ are disjoint sets.
(iii) \2, 6, 10, 14\ and \3, 7, 11, 15\ are disjoint sets.
(iv) \2, 6, 10\ and \3, 7, 11\ are disjoint sets.

SOLUTION

We are asked to determine whether the given pairs of sets are disjoint and to justify our answers.

Key concept: Disjoint Sets

Two sets are disjoint if they have no elements in common. In other words, their intersection is the empty set.

(i) and are disjoint sets.

Step 1: Find the intersection of the two sets.

The intersection of and is the set of elements that are present in both sets.

Step 2: Determine if the intersection is empty.

Since the intersection is , which is not an empty set, the two sets are not disjoint.

Answer: False

(ii) and are disjoint sets.

Step 1: Find the intersection of the two sets.

The intersection of and is the set of elements that are present in both sets.

Step 2: Determine if the intersection is empty.

Since the intersection is , which is not an empty set, the two sets are not disjoint.

Answer: False

(iii) and are disjoint sets.

Step 1: Find the intersection of the two sets.

The intersection of and is the set of elements that are present in both sets.

Step 2: Determine if the intersection is empty.

Since the intersection is the empty set, the two sets are disjoint.

Answer: True

(iv) and are disjoint sets.

Step 1: Find the intersection of the two sets.

The intersection of and is the set of elements that are present in both sets.

Step 2: Determine if the intersection is empty.

Since the intersection is the empty set, the two sets are disjoint.

Answer: True

ANSWER

(i) False

(ii) False

(iii) True

(iv) True

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📝 Key Formulas

Important Formulas for Exercise 1.4

Formula / Concept	Description
Union of Sets	The set of all elements which are either in set A or in set B or in both.
A \cup B = \x : x \in A \text or x \in B\	The union of two sets A and B is the set of all elements that belong to A, or to B, or to both.
Intersection of Sets	The set of all elements which are common to both set A and set B.

Formula / Concept	Description
A \cap B = \x : x \in A \text and x \in B\	The intersection of two sets A and B is the set of all elements that belong to both A and B.
Difference of Sets	The set of elements which belong to set A but not to set B.
A - B = \x : x \in A \text and x \notin B\	The difference of sets A and B in this order is the set of elements which are in A but not in B.
Complement of a Set	The set of all elements in the universal set U that are not in set A.
A' = U - A = \x : x \in U \text and x \notin A\	The complement of a set A contains all elements of the universal set U that are not elements of A.
Disjoint Sets	Two sets A and B are said to be disjoint if they have no element in common.
A \cap B = \emptyset	If the intersection of two sets A and B is the empty set (\emptyset), they are called disjoint sets.
Algebra of Sets (Properties of Operations)	
A \cup B = B \cup A A \cap B = B \cap A	**Commutative Laws:** The order of sets does not matter for union or intersection.
(A \cup B) \cup C = A \cup (B \cup C) (A \cap B) \cap C = A \cap (B \cap C)	**Associative Laws:** The grouping of sets does not matter for union or intersection.
A \cup \emptyset = A A \cap U = A	**Identity Laws:** The union of a set with an empty set is the set itself. The intersection of a set with the universal set is the set itself.
A \cup A = A A \cap A = A	**Idempotent Laws:** The union or intersection of a set with itself is the set itself.
A \cup (B \cap C) = (A \cup B) \cap (A \cup C) A \cap (B \cup C) = (A \cap B) \cup (A \cap C)	**Distributive Laws:** Union distributes over intersection, and intersection distributes over union.
De Morgan's Laws	
(A \cup B)' = A' \cap B'	The complement of the union of two sets is the intersection of their complements.
(A \cap B)' = A' \cup B'	The complement of the intersection of two sets is the union of their complements.

Formula / Concept	Description
	Properties of Complement
A \cup A' = U	**Complement Law:** The union of a set and its complement is the universal set.
A \cap A' = \emptyset	**Complement Law:** The intersection of a set and its complement is the empty set.
(A')' = A	**Law of Double Complementation:** The complement of the complement of a set is the set itself.
\emptyset' = U and U' = \emptyset	**Laws of Empty Set and Universal Set:** The complement of the empty set is the universal set, and vice-versa.

❓ Top FAQs

Q1. How many questions are in NCERT Solutions Class 11 Maths Chapter 1 Sets Exercise 1.4 for CBSE 2025-26?

Exercise 1.4 of NCERT Solutions for Class 11 Maths Chapter 1 Sets contains exactly 12 questions. These questions focus on operations on sets including union, intersection, difference, and complement operations along with De Morgan's Laws. All 12 questions with step by step solutions are available for CBSE board exam 2025-26 preparation.

Q2. Where can I download free PDF of NCERT Solutions for Class 11 Maths Chapter 1 Sets Exercise 1.4 with step by step solutions?

Free PDF download of NCERT Solutions for Class 11 Maths Chapter 1 Sets Exercise 1.4 is available on the official NCERT website and various educational platforms. These PDF solutions include detailed step by step solutions for all 12 questions covering operations on sets and De Morgan's Laws. The solutions are updated as per CBSE board exam 2025-26 syllabus.

Q3. How many marks does Chapter 1 Sets carry in CBSE Class 11 Maths board exam 2025-26?

Chapter 1 Sets carries approximately 8 marks in CBSE Class 11 Maths board exam 2025-26 as part of Unit I - Sets and Functions. Exercise 1.4 which covers operations on sets and De Morgan's Laws is crucial for scoring these marks. Students should practice all NCERT Solutions for Class 11 Maths Chapter 1 thoroughly for complete preparation.

Q4. Which is the most difficult question in Exercise 1.4 of NCERT Solutions Class 11 Maths Chapter 1 Sets?

Questions 11 and 12 in Exercise 1.4 of NCERT Solutions Class 11 Maths Chapter 1 Sets are considered most difficult as they involve proving set identities using De Morgan's Laws and algebra of sets. These questions require thorough understanding of set operations and logical reasoning. Step by step solutions help students master these challenging problems for CBSE board exam 2025-26.

Q5. What is De Morgan's Laws explained in NCERT Solutions for Class 11 Maths Chapter 1 Sets Exercise 1.4?

De Morgan's Laws in NCERT Class 11 Maths Chapter 1 Exercise 1.4 state that $(A \cup B)' = A' \cap B'$ and $(A \cap B)' = A' \cup B'$, where the complement of union equals intersection of complements and vice versa. These fundamental laws of algebra of sets are extensively used in Exercise 1.4 questions. Understanding De Morgan's Laws is essential for CBSE board exam 2025-26 and competitive exams.

📚 More Exercises

Visit all exercises from Chapter 1:

EXERCISE 1.1 →

EXERCISE 1.2 →

EXERCISE 1.3 →

EXERCISE 1.4 ✓ →

EXERCISE 1.5 →

🌐 **Complete Chapter:** Class 11 Maths Ch 1: Sets →