



Any finite set with any topology is second countable.



Discrete topology on a real line $\mathbb{R}$ is second countable.



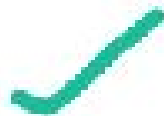
The set $\mathbb{R}$ with usual topology is second countable.

Question # 2 of 10 (start time: 06:52:02 AM, 15 February 2022)

Every Topological Space is a first countable space.

Select the correct option

☐	False
☐	True



	
	$\{x\}$ 

☐	The set $\{\emptyset, (3), (4)\}$ is an open sub-cover of $\{\emptyset, (3), (4), X\}$
☐	The set $\{\emptyset, (3), (4)\}$ is an open cover of the set $\{4\}$.
☐	All of them

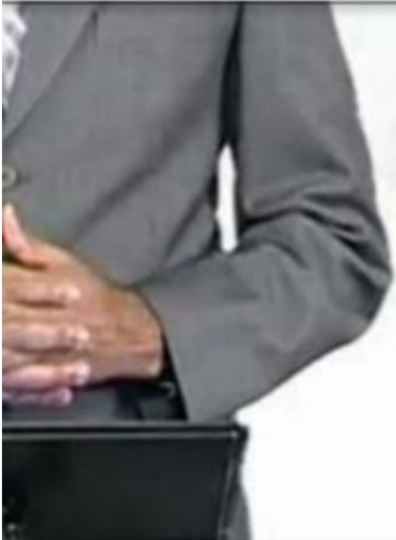


☐	Every element of X has countable local base
☒	All of them
☐	(X, τ) be a first countable space



(X, τ) be a topological space

☐	None of them.
☐	It is metrizable.
☐	It is Hausdorff.



Separable Spaces

Def:

A topological space $(X, \mathcal{T})$ is said to be "Separable" if there exists a countable dense subset A of X .

i.e.

- $\exists A \subset X$ such that
1. A is countable.
 2. $\overline{A} = X$.

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Select the correct option

False



True



Every metric space is first countable.

Select the correct option

True



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False



All of them.

usual topology



None of them.



The set $\{0, \{3\}, \{4\}\}$ is an open cover of the set $\{2\}$

Which of the following statement is true?

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Select the correct option



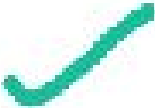
All spaces are not metrizable.



All spaces are metrizable.

Let (X, τ) be a metrizable then which of the following statement is true

Select the correct option

☐	All of them 
☐	(X, τ) is separable.
☐	(X, τ) has the countable chain collection
☐	(X, τ) is second countable.



All of them





discrete topology



The set $\{0, \{4\}\}$ is an open cover of the set $\{4\}$.

☐	
☐	The set $\{\emptyset, \{3\}, \{4\}\}$ is an open cover of the set $\{4\}$.
☐	The set $\{\emptyset, \{3\}, \{4\}\}$ is an open sub-cover of $\{\emptyset, \{3\}, \{4\}, X\}$.
☐	All of them

