## Classwork

Q. Give an example of each of the following sets

- (1) Give an example of a set which has infinite number of limit points but has only one isolated point.
- (2) Give an example of a set which has infinite number of isolated points but has only one limit point.
- (3) Give an example of a set which has finite number of isolated points and finite number of limit points.
- (4) Give an example of a set which has infinite number of isolated points and infinite number of limit point.

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(5) Give an example of a set which has no limit point as well as isolated points.

Q. Find the limit points and isolated points of the following sets

- (1) S = (a, b),
- (2) S = [a, b],
- (3) S = (a, b],
- (4)  $S = [a, b)^{\prime}$
- (5)  $S = \{x \in \mathbb{R} : |x| \le 1\},\$
- (6)  $S = \{x \in \mathbb{R} : |\sin x| \le 1\},\$
- (7)  $S = \{e^x : x \in \mathbb{R}\},\$ (8)  $S = \{|x| : x \in \mathbb{R}\},\$
- (9)  $S = \{ log(x) : x \in \mathbb{R} \},\$
- (10)  $S = \{2x : x \in \mathbb{R}\},\$