

Chapter 1 - Sets

Exercise: 1.1

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Question 1:

Solution:

Well-defined collections are sets.

Example:

The collection of good teachers in a school is not a set, It is a collection.

Thus, we can say that every set is a collection, but every collection is not necessarily a set.

The collection of vowels in English alphabets is a set.

Question 2.

- (i) A collection of all natural numbers less than 50.
- (ii) The collection of good hockey players in India.
- (iii) The collection of all girls in your class.
- (iv) The collection of most talented writers of India.
- (v) The collection of difficult topic in mathematics.
- (vi) The collection of all months of a year beginning with the letter J
- (vii) A collection of novels by MunshiPrem Chand.
- (viii) The collection of all questions in this chapter.
- (ix) A collection of most dangerous animals of the world.
- (x) The collection of prime integers.

Solution:

- (i) The collection of all natural numbers less than 50 is a set because it is well defined.
- (ii) The collection of good hockey players is not a set because the goodness of a hockey player is not defined here. So, it is not a set.
- (iii) The collection of all girls in a class is a set, as it is well defined that all girls of the class are being talked about.
- (iv) The collection of the most talented writers of India is a set because it is well defined.
- (v) The collection of difficult topics in mathematics is not a set because a topic can be easy for one student while difficult for the other student.
- (vi) The collection of all months of a year beginning with the letter J is a set given by {January, June, July}
- (vii) A collection of novels written by MunshiPrem Chand is a set because one can determine whether the novel is written by MunshiPrem Chand or not.

(viii) The collection of all question in this chapter is a set because one can easily check whether it is a question of the chapter or not.

(ix) A collection of most dangerous animals of the world is not a set because we cannot decide whether the animal is dangerous or not.

(x) The collection of prime integers is set given by $\{2, 3, 5, \dots\}$

Question 3:

Solution:

(i) $4 \in A$

(ii) $-4 \notin A$

(iii) $12 \notin A$

(iv) $9 \in A$

(v) $0 \in A$

(vi) $-2 \notin A$

