

C.W
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CH-10
Sets

Date _____
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8 For each statement, given below, write true or False:

(*) State whether the following are finite or infinite set

(i) ~~$\{2, 4, 6, 8, \dots, 800\}$~~

Ans \Rightarrow Finit

(ii) $\{\dots, -5, -4, -3, -2\}$

Ans \Rightarrow Infinit

(iii) $\{x: x \text{ is an integer between } -60 \text{ and } 60\}$

Ans \Rightarrow Finit

(iv) $\{\text{No. of electrical appliances working in your house}\}$

Ans \Rightarrow Finit

(v) $\{x: x \text{ is a whole number greater than } 20\}$

Ans \Rightarrow infinit

(vi) $\{x: x \text{ is a whole number less than } 20\}$

Ans \Rightarrow Finit

~~8 { ..., 8, 4 }~~

8 For each statement given below, write

True or False:

(i) ~~Ans~~ $\{ \dots, -8, -4, 0, 4, 8 \}$ is a finite set. (False)

~~Ans~~
(ii) $\{ -32, -28, -24, -20, \dots, 0, 4, 8, 16 \}$ is an infinite set

Ans: False

(iii) $\{ x: x \text{ is a natural number less than } 1 \}$ is the empty set

Ans: True

(iv) $\{ \text{whole number between } 15 \text{ and } 16 \} = \{ \text{natural number between } 5 \text{ and } 6 \}$

Ans: True

(v) $\{ \text{odd number divisible by } 2 \}$ is the empty set

Ans: True

(vi) $\{ \}$ Even natural numbers divisible by 3 }
is the empty set.

Ans False

(vii) $\{ x : x \text{ is positive and } x < 0 \}$ is the empty set.

Ans True

(viii) $\{ \dots, -5, -3, -1, 1, 3, 5, \dots \}$ is a finite set.

Ans False

9 state giving reasons, which of the following pairs of set are disjoint sets and which are overlapping sets.

(i) $A = \{ \text{Girls with ages below 15 years} \}$ and

$B = \{ \text{Girls with ages above 15 years} \}$

Ans disjoint set

(ii) $C = \{ \text{Boys with ages above 20 years} \}$ and

$D = \{ \text{Boys with ages above 27 years} \}$

Ans overlapping sets

(iii) $A = \{ \text{Natural numbers between 25 and 60} \}$ and
 $B = \{ \text{Natural numbers between 50 and 80} \}$

Ans \rightarrow overlapping set

(iv) $P = \{ \text{students of class IX studying in I.C.S.E. Board} \}$ and

$Q = \{ \text{students of class IX} \}$

Ans \rightarrow overlapping set

(v) $A = \{ \text{Natural number that are multiples of 3 and less than 30} \}$ and

$B = \{ \text{Natural number divisible by 4 and lying between 20 and 45} \}$

Ans \rightarrow overlapping set

(vi) $P = \{ \text{Letters in the word ALLAHABAD} \}$ and

$Q = \{ \text{Letter in the word 'MUSSOORIE'} \}$

Ans \rightarrow disjoint sets