

30/sep/21

Maths (H.W.)

Ch 10 - 1 Set

CH - 10 - Sets

Topic Ex 10 D ~~Q1, and Q2, Q3 and Q4, Ex 10 E Q2, Q3 & Q4~~

• Ex 10 D

Q1. State whether the given set is infinite or finite.

(i)  $\{3, 5, 7, \dots\}$  infinite

(ii)  $\{1, 2, 3, 4\}$  finite

(iii)  $\{\dots, -3, -2, -1, 0, 1, 2\}$  infinite

(iv)  $\{20, 30, 40, 50, \dots, 200\}$  finite

Q2. Which of the following sets is empty?

(i) Set of counting numbers between 5 and 6.  
Empty

(ii) Set of odd of numbers between 7 and 19.  
Not empty

(iii) Set of odd numbers between 7 and 9. Empty

~~(iv)~~

(iv) Set of even ~~num~~ numbers that are not divisible by 2. Not empty

(v)  $\{0\}$  Empty

(vi)

Q2.

Q3. State which of the pair of sets given below are equal sets and which are equivalent equivalent:

(i)  $\{3, 5, 7\}$  and  $\{5, 3, 7\}$  Equal sets  
and Equivalent

(ii)  $\{8, 6, 10, 12\}$  and  $\{3, 2, 4, 6\}$  Equivalent

(iii)  $\{7, 7, 2, 1, 2\}$  and  $\{1, 2, 7\}$  Equal sets

(iv)  $\{2, 4, 8, 18\}$

(iv)  $\{2, 4, 6, 8, 10\}$  and  $\{a, b, d, e, m\}$   
Equivalent

Q4. State which of the following are finite sets and which are infinite:

(i) Set of integers. Infinite

- (ii)  $\{ \text{Halt Multiples of } 5 \}$  Infinite
- (iii)  $\{ \text{Fractions between } 1 \text{ and } 2 \}$  Infinite
- (iv)  $\{ \text{Number of people in India} \}$  Infinite  
~~Inf Finite~~
- (v) Set of trees in the world. Infinite
- (vi) Set of leaves on a tree. Finite
- (vii) Set of children in all the schools of Delhi. Finite
- (viii)  $\{ \dots, -4, -2, 0, 2, 4, 6, 8 \}$  Infinite
- (ix)  $\{ -12, -9, -6, -3, 0, 3, 6, \dots \}$  Infinite
- (x)  $\{ \text{Number of points in a line segment } 4 \text{ cm long} \}$  Infinite

Ex 10 E

Q2. Given:  
 $A = \{ \text{Natural numbers less than } 10 \}$

$B = \{ \text{letters of the word 'PUPPET'} \}$

$C = \{ \text{Squares of the first four whole numbers} \}$

Q2.  $D = \{ \text{odd numbers divisible by } 2 \}$

Find: (i)  $n(A) \Rightarrow 9$

(ii)  $n(B) \Rightarrow 4$

(iii)  $n(C) \Rightarrow 4$

(iv)  $n(D) \Rightarrow 0$

Q3. State true or false for each the of the following. Correct the wrong statement.

(i) If  $A = \{0\}$ , then  $n(A) = 0$ . False

Correct statement:  $n(A) = 1$

(ii) False:  $n(\emptyset) = 1$ . False

Correct statement:  $n(\emptyset) = 0$

(iii) If  $T = \{a, l, a, h, b, d, h\}$ ; then  $n(T) = 5$ . False True

(iv) If  $B = \{1, 5, 51, 15, 5, 1\}$ ; then  $n(B) = 6$ . False False

Correct statement:  $n(B) = 4$

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