



ST. LAWRENCE HIGH SCHOOL

A JESUIT CHRISTIAN MINORITY INSTITUTION



Sub: Arithmetic

Class: 7

Date: 28. 04.20

Duration: 40 min

Worksheet 14

Full Marks: 15

SET THEORY

Choose the Correct options:

- $\{x: x \text{ is an integer neither positive nor negative}\}$ is
 - Empty set
 - Non- empty set
 - Finite set
 - Both b and c
- $\{x: x \text{ is a real number between 1 and 2}\}$ is an
 - Infinite set
 - Finite set
 - Empty set
 - None of the mentioned
- Write set $\{1, 5, 15, 25, \dots\}$ in set-builder form :
 - $\{x: \text{either } x=1 \text{ or } x=5n, \text{ where } n \text{ is a real number}\}$
 - $\{x: \text{either } x=1 \text{ or } x=5n, \text{ where } n \text{ is a integer}\}$
 - $\{x: \text{either } x=1 \text{ or } x=5n, \text{ where } n \text{ is an odd natural number}\}$
 - $\{x: x=5n, \text{ where } n \text{ is a natural number}\}$
- Express $\{x: x= n/ (n+1), n \text{ is a natural number less than } 7\}$ in roster form:
 - $\{1/2, 2/3, 4/5, 6/7\}$
 - $\{1/2, 2/3, 3/4, 4/5, 5/6, 6/7, 7/8\}$
 - $\{1/2, 2/3, 3/4, 4/5, 5/6, 6/7\}$
 - Infinite set
- $\{x: x \in \mathbb{N} \text{ and } x \text{ is prime}\}$ then it is:
 - Infinite set
 - Finite set
 - Empty set
 - Not a set
- Convert set $\{x: x \text{ is a positive prime number which divides } 72\}$ in roster form:
 - $\{2, 3, 5\}$
 - $\{2, 3, 6\}$
 - $\{2, 3\}$
 - $\{\emptyset\}$
- A _____ is an ordered collection of objects.
 - Relation
 - Function
 - Set
 - Proposition
- The set O of odd positive integers less than 10 can be expressed by _____
 - $\{1, 2, 3\}$
 - $\{1, 3, 5, 7, 9\}$
 - $\{1, 2, 5, 9\}$
 - $\{1, 5, 7, 9, 11\}$
- Which of the following two sets are equal?
 - $A = \{1, 2\}$ and $B = \{1\}$
 - $A = \{1, 2\}$ and $B = \{1, 2, 3\}$
 - $A = \{1, 2, 3\}$ and $B = \{2, 1, 3\}$

d) $A = \{1, 2, 4\}$ and $B = \{1, 2, 3\}$

10. The set of positive integers is _____

- a) Infinite
- b) Finite
- c) Subset
- d) Empty

11. The members of the set $S = \{x \mid x \text{ is the square of an integer and } x < 100\}$ is

- a) $\{0, 2, 4, 5, 9, 58, 49, 56, 99, 12\}$
- b) $\{0, 1, 4, 9, 16, 25, 36, 49, 64, 81\}$
- c) $\{1, 4, 9, 16, 25, 36, 64, 81, 85, 99\}$
- d) $\{0, 1, 4, 9, 16, 25, 36, 49, 64, 121\}$

12. Which of the following is EQUIVALENT to $\{c,r,e,a,t,e\}$

- a) $\{4\}$
- b) $\{5\}$
- c) $\{L,O,V,E\}$
- d) $\{f,a,i,t,h\}$

13. Which of the following is EQUAL to $\{t,e,4\}$?

- a) $\{4,4,t,e\}$
- b) $\{3\}$
- c) $\{1,1,2\}$
- d) $\{t,e,4,f\}$

14. If $P = \{p: p \text{ is a prime numbers less than } 10\}$, then P is

- a) $\{2,3,5,7\}$
- b) $\{1,2,3,5,7\}$
- c) $\{2,3,5,7,9\}$
- d) $\{1,2,3,5,7,9\}$

15 . Which of the following are well-defined sets?

- a) All the colours in the rainbow.
- b) All the points that lie on a straight line.
- c) All the honest members in the family.
- d) All the tall boys of the school.