



# ST. LAWRENCE HIGH SCHOOL

A JESUIT CHRISTIAN MINORITY INSTITUTION



**SUBJECT – Arithmetic**  
**Marks:15**

**CLASS 8**  
**Work sheet 1**  
**SETS**

**Date:7.4.2020**

**Answer all the following questions(1×15=15)**

- A set is denoted by
  - { }
  - ( )
  - [ ]
  - none of these
- 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}
  - A = {1, 2, 4} and B = {1, 2, 3}
- The set of positive integers is \_\_\_\_\_
  - Infinite
  - Finite
  - Subset
  - Empty
- The members of the set  $S = \{x \mid x \text{ is the square of an integer and } x < 100\}$  is \_\_\_\_\_
  - {0, 2, 4, 5, 9, 58, 49, 56, 99, 12}
  - {0, 1, 4, 9, 16, 25, 36, 49, 64, 81}
  - {1, 4, 9, 16, 25, 36, 64, 81, 85, 99}
  - {0, 1, 4, 9, 16, 25, 36, 49, 64, 121}

6. The sets  $\{M, A, N\}$  and  $\{B, O, Y\}$  are types of
- equal sets
  - equivalent sets
  - empty sets
  - singleton sets
7. The set  $\{0, 1, 2, 3, 4, \dots\}$  is an example of
- set of natural numbers
  - set of real numbers
  - set of integers
  - set of whole numbers
8. The set of rational numbers is denoted by
- Q
  - R
  - Z
  - N
9. Which of the following statement is correct?
- All equal sets are equivalent
  - All equivalent sets are equal
  - An empty set is not a null set
  - $\{0\}$  is an empty set
10.  $\{x: x \text{ is a real number between } 1 \text{ and } 2\}$  is an
- Infinite set
  - Finite set
  - Empty set
  - None of the mentioned
11. Convert set  $\{x: x \text{ is a positive prime number which divides } 72\}$  in roster form:
- $\{2, 3, 5\}$
  - $\{2, 3, 6\}$
  - $\{2, 3\}$
  - $\{\emptyset\}$
12. Express  $\{x: x = n / (n+1), n \text{ is a natural number less than } 7\}$  in roster form:
- $\{\frac{1}{2}, \frac{2}{3}, \frac{3}{4}, \frac{4}{5}\}$

- b)  $\{\frac{1}{2}, \frac{2}{3}, \frac{3}{4}, \frac{4}{5}, \frac{5}{6}, \frac{6}{7}, \frac{7}{8}\}$
- c)  $\{\frac{1}{2}, \frac{2}{3}, \frac{3}{4}, \frac{4}{5}, \frac{5}{6}, \frac{6}{7}\}$
- d) Infinite set

13. Which sets are not empty?

- a)  $\{x: x \text{ is a even prime greater than } 3\}$
- b)  $\{x : x \text{ is a multiple of } 2 \text{ and is odd}\}$
- c)  $\{x: x \text{ is an even number and } x+3 \text{ is even}\}$
- d)  $\{x: x \text{ is a prime number less than } 5 \text{ and is odd}\}$

14. Write set  $\{1, 5, 15, 25, \dots\}$  in set-builder form :

- a)  $\{x: \text{either } x=1 \text{ or } x=5n, \text{ where } n \text{ is a real number}\}$
- b)  $\{x: \text{either } x=1 \text{ or } x=5n, \text{ where } n \text{ is a integer}\}$
- c)  $\{x: \text{either } x=1 \text{ or } x=5n, \text{ where } n \text{ is an odd natural number}\}$
- d)  $\{x: x=5n, \text{ where } n \text{ is a natural number}\}$

15.  $\{x: x \text{ is an integer neither positive nor negative}\}$  is

- a) Empty set
- b) Non- empty set
- c) Finite set
- d) Both b and c

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