ST. LAWRENCE HIGH SCHOOL

A JESUIT CHRISTIAN MINORITY INSTITUTION

CLASS 8

SUBJECT – Arithmetic **Work sheet 2 answer key**

Marks:15 **SETS(continued)** **Date:8.4.2020**

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

1. Which of the following is subset of set {1, 2, 3, 4}.
   a) {1, 2}
   b) {1, 2, 3}
   c) {1}
   d) All of the mentioned
   Answer: d
   Explanation: There are total 16 subsets.

2. A = {∅,{∅},2,{2,∅},3} ,which of the following is true.
   a) {{∅,{∅}} ∈ A
   b) {2} ∈ A
   c) ∅ ⊂ A
   d) 3 ⊂ A
   Answer: c
   Explanation: Empty set is a subset of every set

3. Subset of the set A= { } is:
   a) A
   b) {}
   c) ∅
   d) All of the mentioned
   Answer: d
   Explanation: Every set is subset of itself and Empty set is subset of each set.

4. What is the cardinality of the set of odd positive integers less than 10?
   a) 10
   b) 5
   c) 3
   d) 20
   Answer: b
   Explanation: Set S of odd positive an odd integer less than 10 is {1, 3, 5, 7, 9}. Then, Cardinality of set S = |S| which is 5.

5. The union of the sets {1, 2, 5} and {1, 2, 6} is the set _____
   a) {1, 2, 6, 1}
   b) {1, 2, 5, 6}

c) {1, 2, 1, 2}
d) {1, 5, 6, 3}
Answer: b
Explanation: The union of the sets A and B, is the set that contains those elements that are either in A or in B.

6. The intersection of the sets {1, 2, 5} and {1, 2, 6} is the set _____
a) {1, 2}
b) {5, 6}
c) {2, 5}
d) {1, 6}
Answer: a
Explanation: The intersection of the sets A and B, is the set containing those elements that are in both A and B.

7. . Two sets are called disjoint if there _____ is the empty set.
a) Union
b) Difference
c) Intersection
d) Complement
Answer: c
Explanation: By the definition of the disjoint set

8. Which of the following two sets are disjoint?
a) {1, 3, 5} and {1, 3, 6}
b) {1, 2, 3} and {1, 2, 3}
c) {1, 3, 5} and {2, 3, 4}
d) {1, 3, 5} and {2, 4, 6}
Answer: d
Explanation: Two sets are disjoint if the intersection of two sets is the empty set.

9. The difference of {1, 2, 3} and {1, 2, 5} is the set _____
a) {1}
b) {5}
c) {3}
d) {2}
Answer: c
Explanation: The difference of the sets A and B denoted by A-B, is the set containing those elements that are in A not in B.

10. The complement of the set A is _____
a) A – B
b) U – A
c) A – U
d) B – A

Answer: b
Explanation: The complement of the set A is the complement of A with respect to U.

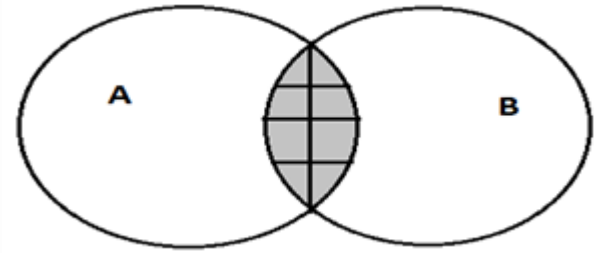
11. The set difference of the set A with null set is _____
    a) A
    b) null
    c) U
    d) B
    Answer: a
    Explanation: The set difference of the set A by null set denoted by A – {null} is A.

12. Let the set A is {1, 2, 3} and B is {2, 3, 4}. Then number of elements in A U B is
    a) 4
    b) 5
    c) 6
    d) 7
    Answer: a
    Explanation: AUB is {1, 2, 3, 4}.

13. Let the set A is {1, 2, 3} and B is { 2, 3, 4}. Then number of elements in A ∩ B is
    a) 1
    b) 2
    c) 3
    d) 4
    Answer: b
    Explanation: A ∩ B is {2, 3}.

14. Let A be set of all prime numbers, B be the set of all even prime numbers, C be the set of all odd prime numbers, then which of the following is true?
    a) A ≡ B U C
    b) B is a singleton set.
    c) A ≡ C U {2}
    d) All of the mentioned
    Answer: d
    Explanation: 2 is the only even prime number.

15. The shaded area of figure is best described by



    a) A ∩ B
    b) A U B
    c) A
    d) B
    Answer: a
    Explanation: The region is A intersection B.