ATOMIC ENERGY EDUCATION SOCIETY

CLASS 6 MATHEMATICS WORKSHEET - PLAYING WITH NUMBERS
Class 06 - Mathematics

Section A

1. Which of these is a composite number? **[1]**

    a) 2   b) 3

    c) 33   d) 11

2. A prime number has two factors 1 and the number itself. Which one of the following is correct about the prime factors of greatest number of two digit. **[1]**

    a) $3 \times 3 \times 11$ b) $3 \times 3 \times 11 \times 21$

    c) $3 \times 11 \times 12$ d) $3 \times 3 \times 11 \times 11$

3. The number of multiples of a given number is _____. **[1]**

    a) None of these   b) infinite

    c) 2   d) finite

4. What will be the average of first 10 even numbers? **[1]**

    a) 9   b) 11

    c) 10   d) 12.5

5. LCM of two numbers is 180. Then which of the following is not the HCF of the numbers? **[1]**

    a) 60   b) 75

    c) 45   d) 90

6. A prime number is called a **Superprime**, if: **doubling it, and then subtracting 1, results in another prime number**. The number of Superprimes less than 15 are: **[1]**

    a) 3   b) 2

    c) 5   d) 4

7. What is the HCF of 68, 4 and 12? **[1]**

    a) 4   b) 2

    c) 3   d) 1

8. Which of the following numbers is divisible by 99? **[1]**

    a) 913462   b) 135792

    c) 357240   d) 114345

9. The length, breadth and height of a room are 825 cm, 675 cm and 450 cm respectively. Find the longest tape which can measure the three dimensions of the room exactly. **[1]**

    a) 14000 cm   b) None of these

c) 15600 cm　　　　　　　　　　　　d) 14850 cm

10. The sum of first three common multiples of 3, 4 and 9 is　　　　　　　　**[1]**

    a) 108　　　　　　　　　　　　　　b) 252

    c) 216　　　　　　　　　　　　　　d) 144

Section B

11. State true or false:　　　　　　　　　　　　　　　　　　　　　　　**[1]**

   2 is the only even prime number.

12. State true or false:　　　　　　　　　　　　　　　　　　　　　　　**[1]**

   A number with three or more digits is divisible by 6, if the number formed by its last two digits (i.e., ones and tens) is divisible by 6.

13. State true or false:　　　　　　　　　　　　　　　　　　　　　　　**[1]**

   $(a + b)(a - b)$ is equal to $a^2 + b^2$.

14. Fill in the blanks:　　　　　　　　　　　　　　　　　　　　　　　**[1]**

   1 is neither _____number nor _____number.

15. Fill in the blanks:　　　　　　　　　　　　　　　　　　　　　　　**[1]**

   A number is divisible by 5, if it has _____ or _____ in its ones place.

16. Fill in the blanks:　　　　　　　　　　　　　　　　　　　　　　　**[1]**

   A number which has more than two factors is called a _____.

17. **Assertion (A):** 108 is divisible by 5.　　　　　　　　　　　　　　**[1]**

   Reason (R): Numbers having 0 and 5 at the ones place are divisible by 5.

    a) Both A and R are true and R is the correct explanation of A.
    b) Both A and R are true but R is not the correct explanation of A.

    c) A is true but R is false.
    d) A is false but R is true.

18. **Assertion (A):** 2, 3 and 5 are Prime numbers　　　　　　　　　　　**[1]**

   Reason (R): The numbers having 1 and itself as a factor are known as Prime numbers.

    a) Both A and R are true and R is the correct explanation of A.
    b) Both A and R are true but R is not the correct explanation of A.

    c) A is true but R is false.
    d) A is false but R is true.

19. **Assertion (A):** The HCF of 18 and 48 is 6.　　　　　　　　　　　　**[1]**

   Reason (R): The Lowest Common Multiple (LCM) of two or more given numbers is the lowest (or smallest or least) of their common multiples.

    a) Both A and R are true and R is the correct explanation of A.
    b) Both A and R are true but R is not the correct explanation of A.

    c) A is true but R is false.
    d) A is false but R is true.

20. **Assertion (A):** LCM of 6 and 12 is 12.　　　　　　　　　　　　　　**[1]**

   Reason (R): The Highest Common Factor (HCF) of two or more given numbers is the highest (or greatest) of their common factors.

    a) Both A and R are true and R is the correct explanation of A.
    b) Both A and R are true but R is not the correct explanation of A.

c) A is true but R is false.   d) A is false but R is true.

Section C

21. Find if the numbers 17 and 68 are co-prime or not.   **[2]**

22. Write all the factors of 68.   **[2]**

23. Find the LCM of the numbers: 9 and 4   **[2]**

24. What is the H.C.F. of two consecutive :   **[2]**

    (a) numbers?

    (b) even numbers?

    (c) odd numbers?

25. Using divisibility tests, determine which of the following numbers are divisible by 4?   **[2]**

    i. 4096

    ii. 21084

    iii. 31795012

26. Find if the numbers 18 and 35 are co-primes or not.   **[2]**

27. Write all the numbers less than 100 which are common multiples of 3 and 4.   **[2]**

28. Write the greatest 4 -digit number and express it in terms of its prime factors.   **[2]**

29. Find the common factors of 5, 15 and 25   **[2]**

30. A vessel has 13 litres of 200 mL of fruit juice. In how many glasses each of capacity 60 mL can it be filled?   **[2]**

Section D

31. Using divisibility tests, determine if the number 726352 is divisible by   **[3]**

    a. 4

    b. 8

32. Using divisibility tests, determine if the number 6000 is divisible by   **[3]**

    a. 4

    b. 8

33. Test the divisibility of each of the following by 4:   **[3]**

    i. 4830048

    ii. 38458

    iii. 3210012

34. Test the divisibility of each of the following numbers by 8.   **[3]**

    i. 263036

    ii. 345648

    iii. 136316

35. Find H.C.F of 35 and 45 by the method of common factors.   **[3]**

Section E

36. In an art competition, first, second and third prizes comprise of colour pencils in sets of 30, 25, and 20. How many minimum of pencils are required to make sets of 1st, 2nd or 3rd prize?   **[5]**

37. Ravi, Rajesh and Rahul started running from same point along three different circular tracks. The lengths of three tracks are 24 m, 35 m and 42m. If they are running with the same speed, find the distance at which they would be at the same point?   **[5]**

38. Using divisibility tests, determine if the no.14560 is divisible by   **[5]**

a. 4

b. 8

Section F

39. **Read the text carefully and answer the questions:** [5]

The width of a swimming pool (in feet) is a prime number greater than 10. The width and length of the pool are factors of 408.

(i) 2 is the _____ prime number.

(ii) What is the length of the swimming pool?

    a) 12 feet   b) 24 feet

    c) None of these   d) 20 feet

(iii) What is the width of the Swimming pool?

    a) 11 feet   b) 12 feet

    c) 13 feet   d) 17 feet

(iv) Find the prime factorization of 980.

    a) $2 \times 2 \times 35 \times 7$ b) $2 \times 2 \times 5 \times 49$

    c) $2 \times 2 \times 5 \times 7 \times 7$ d) $4 \times 5 \times 7 \times 7$

(v) 1 is prime number.

    a) True   b) False

40. **Read the text carefully and answer the questions:** [5]

Ramesh and Suresh are playing game with 50 cards numbered from 1 to 50. This game is about spotting factors. They arrange the cards in the following way.

(i) Every factor is less than or equal to the _____.

(ii) If Ramesh picks cards with number multiple of 5, then the cards collected by Ramesh are

    a) 5,10,15,20,25,30,35,40,45,50   b) None of the above

    c) 1,5   d) 1,5,10,20,30,40,50

(iii) Write factors of 48

    a) 1,3,4,6,8,12,24,48   b) 2,4,6,8,12,24,48

    c) 1,2,3,4,6,8,12,14,16,24   d) 1,2,3,4,8,12,16,24,48

(iv) Suresh picks card with number 36, then factors of 36

a) 1,2,3,4,6,9,12,18,36

b) 2,4,9,36

c) 2,4,6,8,12,18,36

d) 1,3,6,9,12,36

(v) 1 is a factor of every number

a) True

b) False