The Extra Mile ..... Work Sheet - 24

Class : X **Board: CBSE** **Subject : Mathematics**

Topic : Multiple Choice Questions

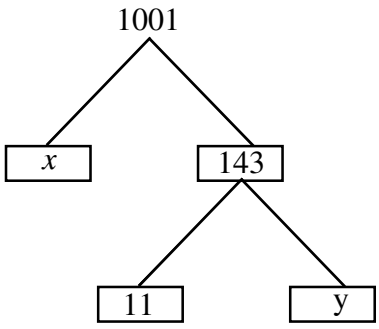
1. REAL NUMBERS

1. The L.C.M of 13 and 39 is _____ [ ]
   a) 13 b) 3 c) 39 d) 52

2. Which of the following number ends with 5 for any positive integer 'n'. [ ]
   a) 4^n b) 6^n c) 12^n d) 5^n

3. If $\sqrt{p}$ is rational, then p is _____ [ ]
   a) Prime b) Composite c) Perfect square d) None

4. The value of 'x' and 'y' in the given figure are [ ]



   a) 7, 13 b) 13, 7 c) 9, 12 d) 12, 9

5. If $x=\sqrt{8}, y=\sqrt{2}$ then which of the following is rational? [ ]
   a) $\frac{x}{y}$ b) x – y c) $\sqrt{xy}$ d) both A & C

6. HCF of $2^5 \times 3^2 \times 7^1$ and $2^1 \times 3^3 \times 7^4$ is _____ [ ]
   a) $2^2 \times 3^2 \times 7$ b) $2 \times 3^2 \times 7^2$ c) $2 \times 3^2 \times 7$ d) $2^3 \times 3^2 \times 7$

7. The Units digit in $6^n + 11^n$, where $n \in N$, is ____ [ ]
   a) 6 b) 1 c) 5 d) 7

8. The H.C.F of $2^3 \times 3^2 \times 5^1 \times 7^2$ and $2^2 \times 3^1 \times 5^2 \times 7^1$ is _____ [ ]
   a) 210 b) 240 c) 420 d) 180

9. H.C.F of 2023 and 2024 is _____ [ ]
   a) 2023 b) 2024 c) 0 d) 1

10. The LCM of smallest and highest two digit natural number is _____ [ ]
    a) 10 b) 99 c) 990 d) 330

11. If the prime factorization of 100 is $2^a \times 3^b \times 5^c$ then find the value of a + b – c = ____ [ ]
    a) 0 b) 1 c) 2 d) 3

12. If n is natural number then 4^{2023} ends with _____digit [ ]
    a) 4 b) 6 c) 8 d) 2

13. The units place digit of 2^5 is _____ [ ]
    a) 2 b) 4 c) 6 d) 8

14. The number of factors of a prime number is _____ [ ]
    a) 0 b) 1 c) 3 d) 2

15. The H.C.F of 6, 8, 10 is _____ [ ]
    a) 1 b) 2 c) 8 d) 10

16. If 'p' and 'q' are prime numbers, then L.C.M of 'p' and 'q' will be _____ [ ]
    a) p b) q c) 1 d) pq

17. The number in the unit place of 6^{2023} is [ ]
    a) 4 b) 6 c) 9 d) 2

18. If a composite number 144, written as $2^a \times 3^b$, then the value of a + b = [ ]
    a) 6 b) 5 c) 12 d) 7

19. If a, b are two co-prime numbers, then HCF of (a, b) is ____ [ ]
    a) a b) b c) ab d) 1

20. If $180 = 2^a \times 3^b \times 5^c$ then a + b + c = _____ [ ]
    a) 3 b) 2 c) 5 d) 10

KEY

1) c	2) d	3) c	4) a	5) d	6) c	7) d	8) c	9) d	10) c
11) a	12) a	13) a	14) d	15) b	16) d	17) b	18) a	19) d	20) c

2. POLYNOMIALS

1. Which of the following is a polynomial. [ ]

a) $x^2 - 6\sqrt{x} + 2$ b) $\sqrt{x} + \frac{1}{\sqrt{x}}$ c) $\frac{5}{x^2 + 3x + 1}$ d) $\frac{4x^3 + 2x^2 + 3x}{x}$

2. The value of $p(x) = x^2 + 5x + 6$ at $x = -2$ [ ]
a) 6 b) 0 c) 5 d) 11

3. The zeroes of polynomial $(x + 2)(x + 7)$ are _____ [ ]
a) 2, 7 b) –2, –7 c) –2, 7 d) 2, –7

4. The quadratic polynomial having 2, 3 as zeroes is ____ [ ]
a) $x^2 - 5x - 6$ b) $x^2 + 5x + 6$ c) $x^2 - 5x + 6$ d) $x^2 - 5x - 6$

5. Sum and product of the zeroes of polynomial $x^2 - 3$ are respectively [ ]
a) 0, 3 b) 0, –3 c) –3, 0 d) 3, 0

6. Which of the following is a polynomial ? [ ]

a) $2x - 3$ b) $2x$ c) $\frac{1}{2}x^2 + 3x - 5$ d) All of these

7. Why $\frac{4}{3}x^4 - \sqrt{2}x^3 + 5x^{+2} + 7\sqrt{x} + 6$ is not a polynomial [ ]

a) The coefficient of x^4 is $\frac{4}{3}$ b) The coefficient of x^3 is $-\sqrt{2}$

c) The exponent of x is + 2 d) The exponent of x is $\frac{1}{2}$

8. If the polynomial, $P(x) = x^3 + 8$ then $P(-2)$ = _____ [ ]
a) 0 b) 16 c) 14 d) 2

9. Sum of zeroes of the polynomial, $2x^2 - 8x + 11$ is _____ [ ]

a) $\frac{11}{2}$ b) – 4 c) 8 d) 4

10. If the co - efficient of x^4 in the polynomial $x^5 + (a - 4)x^4 + x + 2$ is zero then the value of a is ___
a) – 4 b) 4 c) 9 d) 0 [ ]

11. If α, β are the zeroes of $x^2 - 5x + 6$ then $\alpha^2 + \beta^2$ = _____ [ ]
a) 25 b) 13 c) 12 d) 11

12. Quadratic polynomial having 3, –1 as zeroes is [ ]
a) $x^2 + 2x - 3$ b) $x^2 - 2x + 3$ c) $x^2 - 2x - 3$ d) $x^2 + 2x + 3$

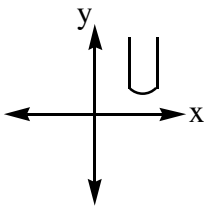
13. If $P(x) = 3x^5 - 4x^2 + 9x - 11$, then P(0) =_____ [ ]
a) 11 b) – 11 c) 0 d) 1

14. The quadratic polynomial having zeroes $\sqrt{3}$ and $-\sqrt{3}$ is _____ [ ]

a) $x^2 + \sqrt{3}$ b) $x^2 - \sqrt{3}$ c) $x^2 + 3$ d) $x^2 - 3$

15. Degree of the quadratic polynomial _____ [ ]
a) 0 b) 1 c) 3 d) 2

16. From the adjacent figure Number of zeroes = _____ [ ]



a) 1

b) 2

c) 3

d) No zeroes

17. If $P(x) = x^3 + 2x^2 + 5$ then $P(-2)$ = [ ]

a) 3 b) 21 c) 5 d) – 5

18. If the two zeroes $x^2 + 5x + (k + 3)$ are $\sin\theta, \operatorname{cosec}\theta$ then K = _____ [ ]

a) 2 b) – 2 c) 1 d) – 1

19. If the length of rectangle is 3 more than twice of its breadth then the polynomial represented by perimeter of the rectangle [ ]

a) $2x + 3$ b) $3x + 2$ c) $6x + 6$ d) $4x + 6$

20. If $P(x) = 4x^2 + x - \frac{1}{2}$ the $P\left(\frac{1}{4}\right)$ = _____ [ ]

a) $\frac{3}{4}$ b) $\frac{2}{4}$ c) $\frac{1}{4}$ d) 0

KEY

1) d	2) b	3) b	4) c	5) b	6) d	7) d	8) a	9) d	10) b
11) b	12) c	13) b	14) d	15) d	16) d	17) c	18) b	19) c	20) d