SECOND MID TERM TEST - 2024

Standard VIII

Reg.No. | | | | | | |

MATHEMATICS

Time : 1.30 hrs *Marks : 50*

I. Choose the correct answer: 5 x 1 = 5

1. In the equation x + 5 = 12, the value of 'x' is _____.
   a) 17 b) 7 c) 60 d) 24
2. $a^3 + b^3 = (a + b)^3 -$ _____.
   a) 3a(a + b) b) 3ab(a – b) c) –3ab(a + b) d) 3ab(a + b)
3. The HCF of two numbers is _____, then they are relatively primes.
   a) 2 b) 3 c) 0 d) 1
4. If (x – 2) (x – p) are the factors of $x^2 - 5x + 6$, then the value of 'p' is _____.
   a) –3 b) 3 c) 2 d) –2
5. The co - ordinate (–3, –5) lies in the _____ quadrant.
   a) 1^{st} b) 2^{nd} c) 3^{rd} d) 4^{th} quadrant

II. Fill in the blanks with the correct answer. 5 x 1 = 5

6. The number of solutions for a linear equation with one variable is _____.
7. The point where the 'X' axis and 'Y' axis meet is called _____.
8. $(a + b)^3$ = _____.
9. The area of a parallelogram is _____ square units.
10. The point (–5, 0) lies on the _____ axis.

III. Match column 'A' with the column 'B' correctly. 5 x 1 = 5

Column A		*Column B*
11. Distance and time	-	(a + b) (a – b)
12. $(a + b)^2$	-	$\frac{1}{2} \times d_1 \times d_2$
13. $a^2 - b^2$	-	$a^2 + 2ab + b^2$
14. 6x – 4 = 20	-	Direct variation
15. Area of rhombus	-	x = 4

IV. Write True or False correctly. 5 x 1 = 5

16. The shifting of a number from one side of an equation to other is called transposition.
17. A square is also a parallelogram.
18. The quantities of number of men to number of days is direct proportion / variation.

19. In the equation a + b = 23, if a = 14, then 'b' is equal to 9.
20. If the sum of a number and it's double is 48, then it could be represented as y + 2y = 48

V. Answer any five of the following. 5 x 2 = 10

21. Factorise : $x^2 + 8x + 15$
22. Expand $(x + 4)^3$
23. Solve: $x - 7 = 6$
24. Without plotting the co-ordinates, name the quadrants in which the following lie on the graph.
    A(0, 10) B(–7, 2) C(2, 0) D(3, –4)
25. If 'A' and 'B' together can complete a work in 16 days. Find in how many days 'B' alone can complete the same work.
26. Find the product $(4x^2 + 9)$ with $(3x - 2)$
27. If the length of the rectangle is $\frac{1}{3}$ of its breadth. If its perimeter is 64 cm, then find its dimensions.

VI. Answer any three of the following. 3 x 5 = 15

28. A number is 7 times a number. If their difference is 18, then find the numbers.
29. Factorise : $x^3 + 15x^2 + 75x + 125$
30. If 48 men can complete a work, working 7 hours a day in 24 days. Then in how many days will 28 men working 8 hours a day can complete the same work
31. A sum of digits of a two digit number is 9. If 27 is subtracted from the number, the two digit number gets reversed. Find the two digit number.
32. Simplify : (p – 2) (p + 1) (p – 4)

VII. Answer any one. 1 x 5 = 5

33. a) Construct a rhombus NEST, for NS = 9 cm, ET = 8 cm. Also find its area.

(OR)

b) Construct a parallelogram DUCK for DC = 8 cm, UK = 6 cm, ∠DOU = 110°. Find its area also.

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