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Class : 8

Register Number 6 5 2 1 1 3

COMMON ANNUAL EXAMINATION - 2024 - 25

MATHEMATICS

Time Allowed : 2.30 Hours] [Max. Marks : 100

PART - I

I. Choose the correct Answer. 5x1=5

1. Which of the following is greatest?
   a) $\frac{-17}{24}$ b) $\frac{-13}{6}$ c) $\frac{7}{-8}$ d) $\frac{-31}{32}$
2. The number of digits in the square root of 123454321 is ----------
   a) 4 b) 5 c) 6 d) 7
3. A Cuboid has ---------- faces.
   a) 4 b) 5 c) 6 d) 7
4. Missing terms of $-3m^2n \times 9$ (-------) = ----------m^4n^3
   a) $mn^2, 27$ b) $m^2n, 27$ c) $m^2n^2, -27$ d) $mn^2, -27$
5. One factor of x^3+y^3 is ----------
   a) (x-y) b) (x+y) c) $(x+y)^3$ d) $(x-y)^3$

II. Fill in the Blanks. 5x1=5

6. The value of x in x + 5 = 12 is ----------
7. Sum of a number and its half is 30, then the number is ----------
8. (0, -5) lies on ---------- axis.
9. The range of the data 200, 15, 20, 103, 3, 197 is ----------
10. The medians of a triangle cross each other at ----------

III. Match the following 5x1=5

11.	$\frac{x}{2} = 10$	-	$\frac{1}{2} \times d_1 \times d_2$
12.	Origin	-	x = 20
13.	Area of Rhombus	-	$a^2 + 2ab + b^2$
14.	Additive Identity	-	(0,0)
15.	$(a+b)^2$	-	0

IV. Write True or False: 4x1=4

16. 79570 is not a perfect cube.
17. The value of 2^{-2} is 4
18. In any triangle the centroid and the incentre are located inside the triangle.
19. Two numbers are said to be Co - prime numbers if their HCF is 1.

PART - II

V. Answer any 10 of the following. 10x2=20

20. Find : $\frac{-6}{11} + \frac{8}{11} + \frac{-12}{11}$
21. Find the square root of $\frac{144}{225}$
22. Find the value of i) 4^{-3} ii) $\frac{1}{2^{-3}}$
23. A spinner of radius 7.5 cm is divided into 6 equal sectors. Find the area of each of the sectors.
24. Expand : $(3m + 5)^2$
25. Find the value of x if 2x + 5 = 9
26. What is 25% of 30% of 400?
27. Factorise : $x^2 + 8x + 16$
28. Can a right triangle have sides that measure 5cm, 12 cm and 13 cm?
29. If a company pays Rs. 6 lakh for 15 workers for 20 days, How much would it head to pay 5 workers for 12 days?
30. Find the compound interest on ₹3200 at 2.5% p.a for 2 years, compounded annually.

CH/8/Mat/1

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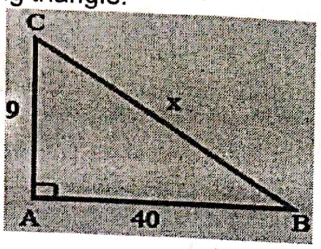
31. Find the unknown side of the following triangle:



32. Find the range of the given data.
53, 42, 61, 9, 39, 63, 14, 20, 06, 26, 31, 4, 57.

33. Using repeated division method, Find the HCF of 455 and 26.

PART - III

VI. Answer any Nine questions. **9x5=45**

34. Simplify : $\left(\frac{4}{3} - \left(\frac{-3}{2}\right)\right) + \left(\frac{-5}{3} \div \frac{30}{12}\right) + \left(\frac{-12}{9} \times \frac{-27}{16}\right)$

35. Find the square root of 17956 by long division method.

36. The radius of sector is 21 cm and its central angle is 120°, Find its area and Find the length of the arc ($\pi = 22/7$)

37. Factorise : $49x^2 - 64y^2$

38. One number is seven times another of their difference is 18, Find the numbers.

39. Find the quadrants without plotting the points on a graph
i) (3, -4), ii) (5,7) iii) (2, 0) iv) (4, -3) v) (0, 10)

40. A can do a piece of work in 12 hours, B and C can do it 3 hours whereas A and C can do it in 6 hours. How long will B alone take to do the same work?

41. Draw a piechart for the following data relating to the cost of construction of a house.

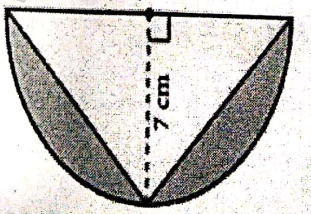
Particulars	Bricks	Steel	Cement	Timber	Labour	Others
Expenses	10%	15%	25%	10%	20%	20%

42. Find the codes of the following by using Atbash Cipher table.
(i) G Z N R O = _____
(ii) V M T O R H S = _____
(iii) N Z G S V N Z G R X H = _____
(iv) H X R V M X V = _____
(v) H L X R Z O H X R V M X V = _____

43. Draw a histogram for the following data.

Class Interval	0-10	10-20	20-30	30-40	40-50	50-60
No. of students	5	15	23	20	10	7

44. Find the area of the shaded portion **($\pi = 3.14$)**



45. Divide $(5y^3 - 25y^2 + 8y) \div 5y$

PART - IV

VII. Answer all the questios. **2x8=16**

46. a) Construct a quadrilateral DEAR with DE = 6cm, EA = 5cm, AR = 5.5 cm, RD = 5.2 cm, DA = 10 cm. Find its area.

(OR)

b) Construct a rectangle BEAN with BE = 5cm and BN = 3cm. Also find its area.

47. a) Draw the graph of y = 5x.

(OR)

b) Plot the following points in the graph sheet.
A (5, 2) B (-7, -3) C (-2, 4) D (-1, -1) E (0, -5) F (2, 0) G (7, -4) H (-4, 0)

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