



COMMON ANNUAL EXAMINATION - 2023

Standard - VIII MATHEMATICS

Reg.No.

Marks: 100

Time: 2.30 hrs.

14 × 1 = 14

I. Choose the best option:

1. Closure property is not true for division of rational numbers because of the number.
a) 1 b) -1 c) 0 d) $\frac{1}{2}$
2. The cube root of 540×50 is _____.
a) 40 b) 30 c) 20 d) 10
3. A line segment which joins any two points on a circle is a _____.
a) radius b) diameter c) circumference d) chord
4. A cube has _____ faces.
a) 6 b) 4 c) 2 d) 1
5. If the area of a square is $36x^4y^2$ then, its side is _____.
a) $6x^4y^2$ b) $8x^2y^2$ c) $6x^2y$ d) $-6x^2y$
6. The largest number of the three consecutive numbers is $x+1$, then the smallest number is
a) x b) $x - 1$ c) $x + 1$ d) $x + 2$
7. 15% of 25% of 10000 = _____.
a) 375 b) 400 c) 425 d) 475
8. The number of conversion periods in a year, if the interest on a principal is compounded every two months is _____.
a) 2 b) 4 c) 12 d) 6
9. Two similar triangles will always have _____ angles.
a) acute b) obtuse c) Right d) matching
10. The hypotenuse of a right angled triangle of sides 12cm and 16cm is _____.
a) 20cm b) 28cm c) 24cm d) 21cm
11. If a class size is 10 and range is 80 then the number of classes are _____.
a) 10 b) 8 c) 16 d) 40
12. Inclusive series is a _____ series.
a) Continuous b) discontinuous c) both d) none of these
13. How many outcomes can you get when you toss three coins once?
a) 6 b) 3 c) 8 d) 2
14. What is the eleventh Fibonacci number?
a) 89 b) 55 c) 77 d) 144

II. Answer any 10 questions. (Q.No.28 is compulsory):

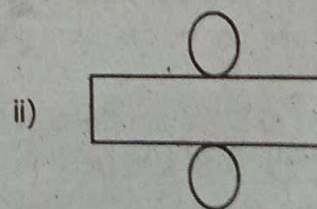
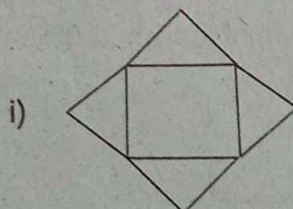
10 × 2 = 20

15. Find the sum : $\frac{6}{5} + \left(\frac{-14}{15}\right)$

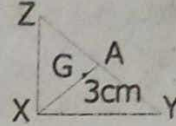
16. Combine the scientific notation : $(7 \times 10^2) (5.2 \times 10^7)$

17. Length of the arc = 50cm, $r = 13.5$ cm. Find the area of the sector.

18. Which 3D shapes do the following nets represent?



19. If the length and breadth of a rectangular painting are $4xy^3$ and $3x^2y$. Find its area.
20. Divide : $27y^3 \div 3y$
21. $x\%$ of 600 is 450. Find 'x'.
22. A family went to a hotel and spent ₹ 350 for food and paid 5% extra as GST. Calculate the CGST and SGST.
23. Can a right triangle have sides that measure 5cm, 12cm and 13cm?
24. In the given figure, A is the midpoint of YZ and G is the centroid of the triangle XYZ. If the length of GA is 3cm, find XA.



25. Convert the given discontinuous series into a continuous series.

Class	0 - 5	6 - 11	12 - 17	18 - 23	24 - 29
Frequency	7	10	9	5	12

26. Shanthy has 5 chudithar sets and 4 frocks. In how many possible ways, can she wear either a Chudithar or a frock?
27. Using repeated subtraction method, find the HCF of 42 and 70.
28. Find the code using Atbash Cipher as the Key ILLN.

III. Answer any 10 questions. (Q.No.42 is compulsory)

10×5=50

29. Write the following rational numbers in ascending and descending order :

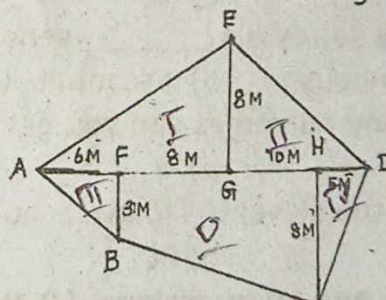
$$-\frac{3}{5}, \frac{7}{-10}, \frac{-15}{20}, \frac{14}{-30}, \frac{-8}{15}$$

30. Find the square root of 418609 by long division method

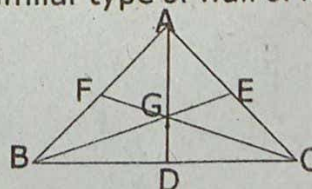
31. Solve for x : $\frac{5^5 \times 5^{-4} \times 5^x}{5^{12}} = 5^{-5}$

32. Kamelesh has a dining table, circular shape of radius 70cm whereas Tharun has a circular quadrant dining table of radius 140cm. Whose dining table has a greater area? ($\pi = 22/7$)

33. Find the area of the irregular polygon shaped fields given below:



34. Find the Volume of cuboid whose dimensions are $(x+2)$, $(x+1)$ and $(x-3)$
35. Factorise the following expression using $(a-b)^3 = a^3 - 3a^2b + 3ab^2 - b^3$ identity.
 $8m^3 - 60m^2n + 150mn^2 - 125n^3$.
36. If a mattress is marked for ₹ 7500 and is available at two successive discounts of 10% and 20%. Find the amount to be paid by the customer.
37. If 81 students can do a painting on a wall of length 448m in 56 days, then how many students can do the painting on a similar type of wall of length 160m in 27 days?
38. ABC is a triangle and G is its Centroid. If $AD = 12\text{cm}$, $BC = 8\text{cm}$ and $BE = 9\text{cm}$, find the perimeter of $\triangle BDG$.





39. Form an ungrouped frequency distribution table of for the weight of 25 students in STD IV given below and answer the following questions:
25, 24, 20, 25, 16, 15, 18, 20, 25, 16, 20, 16, 15, 18, 25, 16, 24, 18, 25, 15, 27, 20, 20, 27, 25

- Find the range of weights
 - What is the weight to which more numbers of students belong to?
40. Monthly expenditure of Kumaran's family is given below. Draw a suitable Pie Chart.

Particulars	Food	Education	Rent	Transport	Miscellaneous
Expenses (in %)	50%	20%	15%	5%	10%

41. Using repeated division method, find the HCF of 320, 120 and 95.
42. At present, Thenmozhi's age is 5 years more than that of Murali's age. Five years ago, the ratio of Thenmozhi's age to Murali's age was 3 : 2. Find their present ages.

IV. Answer the following:

2×8=16

43. a) Draw the graph of $y = 2x + 5$.

(OR)

- b) Draw a frequency polygon for the following data using histogram.

Marks	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Number of students	5	8	10	18	25	22	20	13	6	3

44. a) Construct the quadrilateral PLAY, with the measurement PL = 7cm, LA = 6cm, AY = 6cm, PA = 8cm and LY = 7cm and find its area.

(OR)

- b) Construct the square EAST, with the measurement EA = 6.5cm and find its area.
