THENI

COMMON HALF YEARLY EXAMINATION - 2025

Standard VIII

Reg.No. | | | | | | |

MATHEMATICS

Time : 2.30 hrs | Part – A | Marks : 100

I. Choose the correct answer: 10 x 1 = 10

1. The number which is subtracted from $\frac{-6}{11}$ to get $\frac{8}{9}$ is _____.

   a) $\frac{34}{99}$ b) $\frac{-142}{99}$ c) $\frac{142}{99}$ d) $\frac{-34}{99}$

2. $\frac{3}{4} \times \left(\frac{5}{8} \div \frac{1}{2}\right) =$ _____.

   a) $\frac{5}{8}$ b) $\frac{2}{3}$ c) $\frac{15}{32}$ d) $\frac{15}{16}$

3. The square of 43 ends with the digit _____.

   a) 9 b) 6 c) 4 d)3

4. The product of $7p^3$ and $(2p^2)^2$ is

   a) $14p^{12}$ b) $28p^7$ c) $9p^7$ d) $11p^{12}$

5. $a^3 + b^3 = (a + b)^3 -$ _____.

   a) 3a(a + b) b) 3ab(a – b)

   c) – 3ab(a + b) d) 3ab(a + b)

6. (x + 4) and (x – 5) are the factors of

   a) $x^2 - x + 20$ b) $x^2 - 9x - 20$

   c)$x^2 + x - 20$ d) $x^2 - x - 20$

7. If 48% of 48 = 64% of x, then x = _____.

   a) 64 b) 56 c) 42 d) 36

8. A fruit vendor sells fruits for ₹200 gaining ₹40. His gain percentage is

   a) 20% b) 22% c) 25% d) $16\frac{2}{3}\%$

9. Two similar triangles will always have _____ angles.

   a) acute b) obtuse c) right d) matching

10. How many outcomes can you get when you toss three coins once?

    a) 6 b) 8 c) 3 d) 2

II. Fill in the blanks. 4 x 1 = 4

11. The multiplicative inverse of –1 is _____.

12. $4^{-3} \times 5^{-3} =$ _____.

13. The longest chord of a circle is _____.
14. The symbol ~ is used to represent _____ triangles.

III. Say True or False. 5 x 1 = 5

15. There are an unlimited number of rational numbers between 10 and 11
16. If $8^x = \frac{1}{64}$, the value of x is –2
17. $8x^3y \div 4x^2 = 2xy$
18. Depreciation value is calculated by the formula, $P=\left(1-\frac{r}{100}\right)^n$
19. In a right angled triangle, the hypotenuse is the greatest side.

IV. Match the following. 5 x 1 = 5

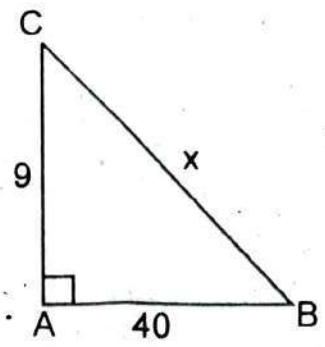
20. $a^m \times a^n$	–	C.P – S.P
21. Area of a circle	–	(a + b) (a – b)
22. $a^2 - b^2$	–	a^{m+n}
23. Area of parallelogram	–	πr^2
24. Loss =	–	b x h sq.units

Part - B

V. Answer any 10 questions. (Q.No.38 is compulsory) 10 x 2 = 20

25. Find the sum: $\frac{7}{5}+\frac{5}{7}$
26. Find the square root by prime factorisation method: 144
27. Find the value of 4^{-3}
28. Find the product of the terms $3x^2y$, $-3xy^3$, x^2y^2
29. Expand $(5p - 1)^2$
30. Factorise: $49x^2 - 64y^2$
31. 48 is 32% of which number ?
32. If selling an article for ₹810 causes 10% loss on the selling price, then find its cost price.
33. Find the area of the sectors whose length of the arc is 50 cm, r = 13.5 cm.
34. Check whether given sides are the sides of right-angled triangles using Pythagoras theorem : 12, 13, 15

35. Find the unknown side in the following triangle.



36. In a class. VIII, a math club has four members. M, A, T and H. Find the number of different ways, the club can elect a leader.
37. Using repeated subtraction method, find the HCF of 42 and 70.
38. a) Find the area of a rhombus whose diagonals are $d_1 = 9$ cm and $d_2 = 8$ cm

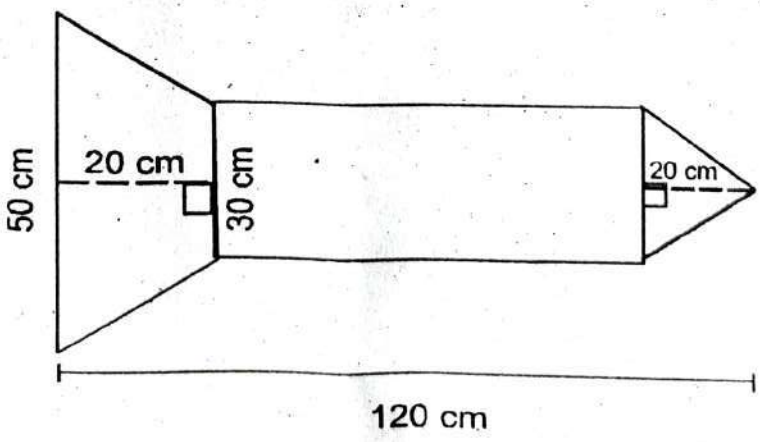
(OR)

b) Factorise: $x^2 + 8x + 15$

Part - C

VI. Answer any 8 questions. (Q.No.50 is compulsory) **8 x 5 = 40**

39. Simplify: $\left[\frac{4}{3} \div \left(\frac{8}{-7}\right)\right] - \left[\frac{3}{4} \times \frac{4}{3}\right] + \left[\frac{4}{3} \times \left(\frac{-1}{4}\right)\right]$
40. Find x so that $(-7)^{x+2} \times (-7)^5 = (-7)^{10}$
41. A spinner of radius 7.5 cm is divided into 6 equal sectors. Find the area of each of the sectors.
42. A rocket drawing has the measures as given in the figure. Find its area.



43. Find the volume of the cube whose side is (x + 1) cm
44. Factorise: $x^2 + yz + xy + xz$

45. When a number is decreased by. 25% it becomes 120. Find the number.

46. If the selling price of an LED TV is equal to $\frac{5}{4}$ of its cost price, then find the gain / profit percentage.

47. An isosceles triangle has equal sides each 13 cm and a base 24 cm in length. Find its height.

48. If you have 2 school bags and 3 water bottles then, in how many different ways can you choose each one of them, while going to school.

49. Using repeated division method, find the H.C.F. of 184, 230 and 276.

50. a) Find the value of $(98)^3$

(OR)

b) What is 25% of 30% of 400 ?

Part - D

VII. Answer all the questions. **2 x 8 = 16**

51. a) Construct a quadrilateral DEAR with DE = 6 cm, EA = 5 cm, AR = 5.5 cm, RD = 5.2 cm, DA = 10 cm. Also find its Area.

(OR)

b) Construct a rhombus ROSE with RO = 5cm and RS = 8cm. Also find its Area.

52. a) Plot the following in graph sheet

A(5,2) B(–7, – 3) C(–2,4) D(0, –5) E(4,0) F(2,0) G(7, –4) H(–4,0)

(OR)

b) Draw the graph of x = 5

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