TVL8M

Tirunelveli District
Half Yearly Examination - December 2025

Standard 8
MATHS
Part - A

Time: 2.30 Hrs.

Marks: 100

I. Choose the correct answer: 5×1=5

1) If $\dfrac{10^x}{10^{-3}} = 10^9$, then x is _____
   a) 4   b) 5   c) 6   d) 7

2) If $x^2 - y^2 = 16$ and $(x+y) = 8$ then $(x-y)$ is _____
   a) 8   b) 3   c) 2   d) 1

3) 12% of 250 litre is the same as _____ of 150 litre
   a) 10%   b) 15%   c) 20%   d) 30%

4) If $\triangle ABC \sim \triangle PQR$ in which $\angle A = 53°$ and $\angle Q = 77°$, then $\angle R$ is _____
   a) 50°   b) 60°   c) 70°   d) 80°

5) 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: 5×1=5

6) The decimal form of the rational number $\dfrac{15}{-4}$ is _____

7) If any two joints on a circle are joined by a line segment, then the line segment is called _____

8) The linear equation in one variable has _____ solution.

9) The symbol $\equiv$ is used to represent _____ triangles.

10) Area of the qudrilateral _____

III. Say True or False: 5×1=5

11) All rational numbers have an additive inverse.

12) $(x-9)^2 = x^2 - 9^2$

13) Depreciation value is calculated by the formula $P\left(1 - \dfrac{r}{100}\right)^n$

14) $y = -9x$ not passes through the origin

15) Subtracting 10^3 from 1729 gives 9^3.

IV. Match the following: 5×1=5

16) 0.00123   - 1.23×10^{-3} 2
17) 1230   - a^{mn} 5
18) $a^m \times b^m$ - 1.23×10^3 1
19) $(a^m)^n$ - a^{m+n} 4
20) $a^m \times a^n$ - $(ab)^m$ 3

Part - B

V. Answer any 12 questions: 12×2=24

21) Compare $\dfrac{9}{-4}$ and $\dfrac{-2}{3}$

22) Find the square and by prime factorisation method: 256

23) Find the value of $\dfrac{3^2}{3^{-2}}$

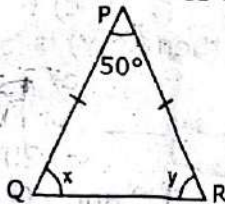24) A circle of radius 70 cm is divided into 5 equal sectors. Find the area of each of the sectors.

25) Verify Euler's formula; for the given values

Faces	Vertices	Edges
4	4	6
12	20	30

26) Multiply: $(2x+5y)$ and $(3x-4y)$

27) Expand: $(3+m)^2$

28) Factorise: $4x^2y+8xy$

29) If $x\%$ of 600 is 450, then find the value of x.

30) If selling an article for Rs.820 causes 10% loss on the selling price, then find its cost price.

31) Find the unknowns:

32) Can a right triangle have sides that measure 5 cm, 12 cm and 13 cm?

33) Find the three digit numbers that can be formed using the digits 3, 5 and 0 without repetition of digits.
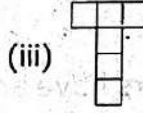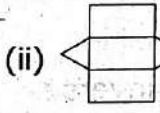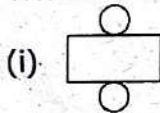
34) Using repeated subtraction method find the HCF of 144 and 120.

Part - C

VI. Answer any 8 questions: 8×5=40

35) Verify the associative property for addition and multiplication for the rational numbers $-\frac{7}{9}, \frac{5}{6}$ and $\frac{-4}{3}$

36) Evaluate: (i) $(2^{-1}+3^{-1}) \div 6^{-1}$ (ii) $(3^{-1}+4^{-2}+5^{-3})^0$

37) The radius of a sector is 21 cm and its central angle is 120°. Find (i) the length of the arc (ii) Area of the sector.

38) Which 3-D shapes do the following nets represent? Draw them
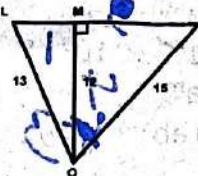
(i)   (ii)   (iii)

39) Divide: $(5y^3-25y^2+8y)$ by $5y$

40) A total of 90 currency notes, consisting only of Rs.5 and Rs.10 denominations, amount to Rs.500. Find the number of notes in each denomination.

41) Find the difference in C.I. and S.I. for
(i) P = Rs.5000, r = 4% p.a., n = 2 years
(ii) P = Rs.8000, r = 5% p.a., n = 3 years

42) If 48 men working 7 hours a day can do a work in 24 days, then in how many days will 28 men working 8 hours a day can complete the same work?

43) Find LM, MN, LN and also the area of $\triangle$LON

44) Using repeated division method, find the HCF of 392 and 256.

Part - D

VII. Answer the following: 2×8=16

45) a] Construct a quadrilateral DEAR with DE = 6 cm, EA = 5 cm, AR = 5.5 cm, RD = 5.2 cm and DA = 10 cm. Also find its area.
     (OR)

    b] Construct a rhombus FARM with FR = 7 cm and ∠F = 80°. Also find its area.

46) a] Draw the graph of x = 5
     (OR)

    b] Draw a straight line by joining the points A(−2, 6) and B(4, −3)