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COMMON QUARTERLY EXAMINATION - 2023

Standard VIII

Reg No

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MATHEMATICS

Time : 2.30 hrs

Part - I

Marks : 100

5 x 1 = 5

I. Choose the correct answer:

- $-\frac{5}{4}$ is a rational number which lies between _____.
 a) 0 and $-\frac{5}{4}$ b) -1 and 0 c) -1 and -2 d) -4 and -5
- $\frac{3}{4} \times \left(\frac{5}{8} + \frac{1}{2}\right) =$ _____.
 a) $\frac{5}{8}$ b) $\frac{2}{3}$ c) $\frac{15}{32}$ d) $\frac{15}{16}$
- If the area of a square is $36x^4y^2$ then, its side is _____.
 a) $6x^2y^2$ b) $8x^2y^2$ c) $6x^2y$ d) $-5x^2y$
- A fruit vendor sells fruits for ₹200 gaining ₹40. His percentage is _____.
 a) 20% b) 22% c) 25% d) $16\frac{2}{3}\%$
- If $\triangle ABC = \triangle PQR$ in which $\angle A = 53^\circ$ and $\angle Q = 77^\circ$, then $\angle R$ is _____.
 a) 50° b) 60° c) 70° d) 80°

5 x 1 = 5

II. Fill in the blanks.

- The value of $\left(\frac{-15}{23}\right) + \left(\frac{30}{-46}\right)$ is _____.
- If a number has 5 or 6 digits in it, then its square root will have _____ digits.
- The longest chord of a circle is _____.
- $\frac{18m^4(\quad)}{2m^3n^3} = \quad mn^5$
- 2 minutes is _____ % to an hour.

5 x 1 = 5

III. Say True or False.

- The rational number which is its own reciprocal is -1.
- When a square number ends in 6, its square root will have 6 in the unit's place.
- $8x^3y \div 4x^2 = 2xy$
- The present value of a machine is ₹16800. It depreciates at 25% p.a. Its worth after 2 years ₹9450.
- 8, 15, 17 is Pythagorean triplet.

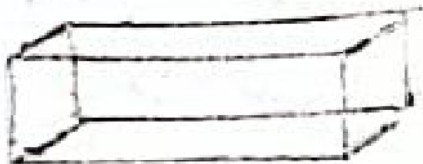
IV. Match the following :

5 x 1 = 5

- | | | |
|--------------------------------------|---|---------------|
| 16. Area of a circle | - | a) Cuboid |
| 17. Circumference of a semicircle | - | b) πr^2 |
| 18. Area of the quadrant of a circle | - | c) $(\pi+2)r$ |

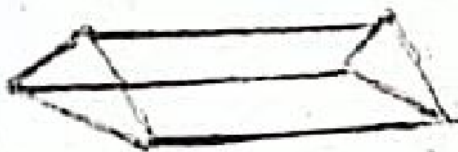
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d) Triangular prism

20

e) $\frac{1}{4} \pi r^2$

Part - II

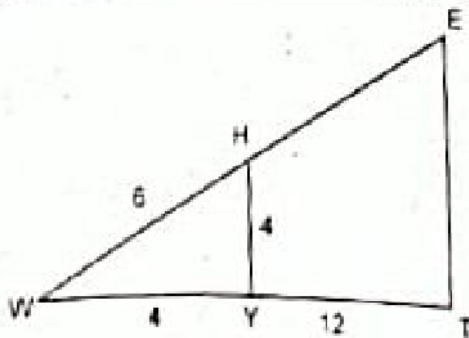
V. Answer any 12 questions.

12x2=24

21. Write the decimal form of $1\frac{3}{20}$ 22. Find the sum $\frac{6}{5} + \left(\frac{-14}{15}\right)$ 23. Find the value of $\sqrt{256}$ 24. Evaluate: $(2^{-5} \times 2^7) + 2^{-2}$ 25. Find the area of the sector, length of the arc = 48 m, $r = 10$ m26. Multiply $(2x + 5y)$ and $(3x - 4y)$ 27. Simplify: $\frac{3m^2}{m} + \frac{2m^4}{m^2}$

28. Akila scored 80% of marks in an examination. If her score was 576 marks, then find the maximum marks of the examination.

29. If selling an article for ₹820 causes 10% loss on the selling price, then find its cost price.

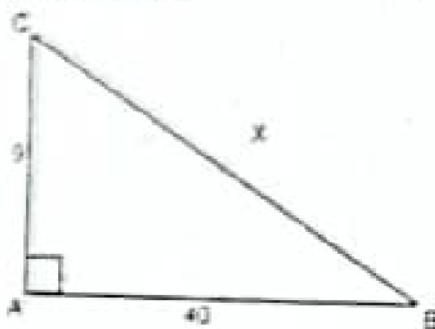
30. Find the difference in C.I. and S.I. for $P = ₹5000$, $r = 4\%$ p.a. $n = 2$ years31. In the given figure, $YH \parallel TE$. Prove that $\triangle WHY \sim \triangle WET$ and also find HE and TE .

32. State Pythagoras theorem.

33. Can a right triangle have sides that measure 5 cm, 12 cm and 13 cm?

34. Find the unknown side in the triangle 3

VIII Maths



35. A number when increased by 18% gives 236. Find the number.

36. Identify the errors and correct them : $7y^2 - y^2 + 3y^2 = 10y^2$

Part - III

VII. Answer any 3 questions.

8 × 5 = 40

37. Compare the pairs of rational numbers : $-\frac{11}{5}$, $-\frac{21}{8}$

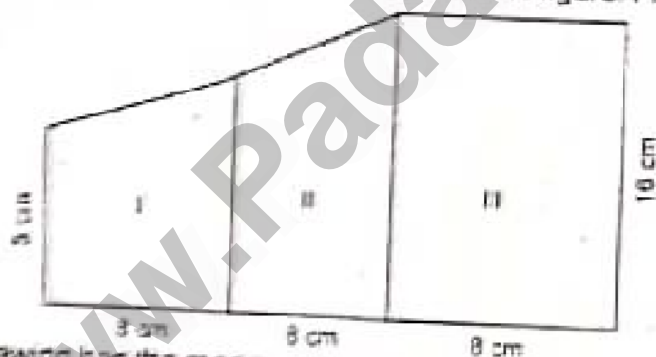
38. Find the rational numbers that should be added and subtracted so that they will make the sum $3\frac{1}{2} - 1\frac{3}{4} + 2\frac{3}{8}$ to the nearest whole number.

39. Find the square root by long division method : 17956

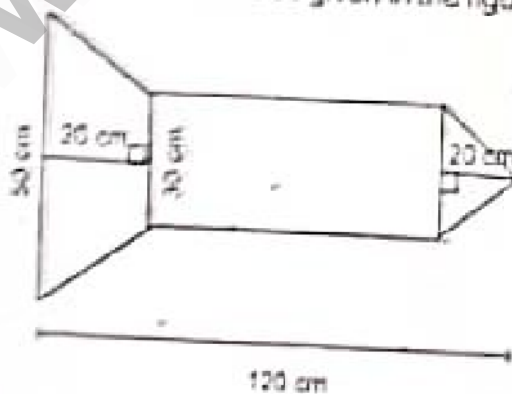
40. Evaluate $\sqrt{\frac{9251}{3000}}$

41. A circle of radius 120 m is divided into 8 equal sectors. Find the length of the arc of each of the sectors.

42. A 3-fold invitation card is given with measures as in the figure. Find its area.



43. a) A rocket drawing has the measures as given in the figure. Find its area.



44. A car moves at a uniform speed of $(x + 35)$ km/hr. Find the distance covered by the car in $(y + 2)$ hours. (Hint: distance = speed \times time)
45. By selling a bicycle for ₹4275, a shopkeeper loses 5%. For how much should he sell it to have a profit of 5%?
46. A principal becomes ₹6773 in 2 years at 4% p.a. compound interest. Find the principal.

Part - IV

VI. Answer all the questions.

2 x 8 = 16

47. a) Construct a quadrilateral MATH with $MA = 4$ cm, $AT = 3.8$ cm, $TH = 4.5$ cm, $MH = 5$ cm and $\angle A = 85^\circ$, also find its area.

(OR)

- b) Construct a trapezium AIMG with $\overline{AI} \parallel \overline{SM}$, $AI = 6$ cm, $IM = 5$ cm, $AM = 9$ cm and $MS = 8.5$ cm.

48. a) Plot the following points $A(5, 2)$, $B(-7, -3)$, $C(-2, 4)$, $D(2, 0)$, $E(0, 7)$

(OR)

- b) Draw straight lines by joining the points

$A(2, 5)$, $B(-5, -2)$, $M(-5, 4)$, $N(1, -2)$. Also find the point of intersection
