COMMON ANNUAL EXAMINATION – 2024

Standard VIII

MATHEMATICS

B

Time: 2.30 hrs. Marks: 100

Part - I

5 x 1 = 5

I. Fill in the blanks.

1. The multiplicative inverse of –1 is _____.
2. The longest chord of a circle is _____.
3. Value of p in the equation $\frac{2p}{3} = 10$ is _____.
4. The symbol ≡ is used to represent _____ triangle.
5. Upper limit of the class interval (25–35) is _____.

5 x 1 = 5

II. Choose the correct answer.

6. $\frac{3}{4} \times \left(\frac{5}{8} \div \frac{1}{2}\right)$ = _____.
   a) $\frac{5}{8}$ b) $\frac{2}{3}$ c) $\frac{15}{32}$ d) $\frac{15}{16}$
7. $(-2)^{-3} \times (-2)^{-2}$ is _____.
   a) $\frac{-1}{32}$ b) $\frac{1}{32}$ c) 32 d) –32
8. 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) $-6x^2y$
9. The graphical representation of grouped data is _____.
   a) bar graph b) pictograph c) pie chart d) histogram
10. Online or television advertisements Influence People on spending decision by
    a) using special music
    b) using attractive pictures
    c) making them think they need the item
    d) all the above

5 x 1 = 5

III. Say True or False.

11. 0 is the smallest rational number.
12. The point (–9,0) lies on x-axis.
13. The depreciation value is calculated by the formula, $P = \left(1 - \frac{r}{100}\right)^n$.
14. In a right angled triangle, the hypotenuse is the greatest side.
15. Inclusive series is a continuous series.

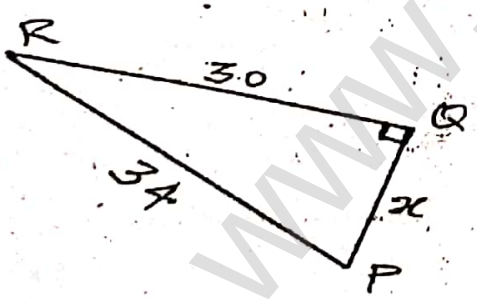
IV. Match the following. 5 x 1 = 5

16. Standard form of $\frac{58}{-78}$ - a) 15
17. Square root of 225 - b) $3x(3x + 2y)$
18. Perimeter of semi circle - c) $\frac{-29}{39}$
19. $4y^2 \times (-3y)$ - d) $(\pi + 2)\, r$
20. $9x^2 + 6xy$ - e) $-12y^3$

Part - II

V. Answer any 12 questions. 12 x 2 = 24

21. Compare : $\frac{9}{-4}$ and $\frac{-2}{3}$
22. Find the square root of 784.
23. A circle of radius 70 cm is divided into 5 equal sectors. Find the area of each of the sectors.
24. Find the product : $(2x + 3)(2x - 4)$
25. Factorise : $4x^2y + 8xy$
26. Expand : $(3m + 5)^2$
27. Solve : $2x + 5 = 9$
28. If x% of 600 is 450, then find the x.
29. Find the value of x in the diagram:



30. Find the range : 200, 15, 20, 103, 3, 197
31. Shanthi has 5 chudithar sets and 4 fracks. In how many possible ways, can she wear either a chudithar or a frack?
32. Using repeated subtraction method, find the HCF of 42 and 70

33. If the word "PHONE" is coded as "SKRQH", how will "RADIO" be coded?

34. Write in standard form : 2.27×10^{-4}

35. Find the area of a sector whose radius is 21 cm and central angle is 120°

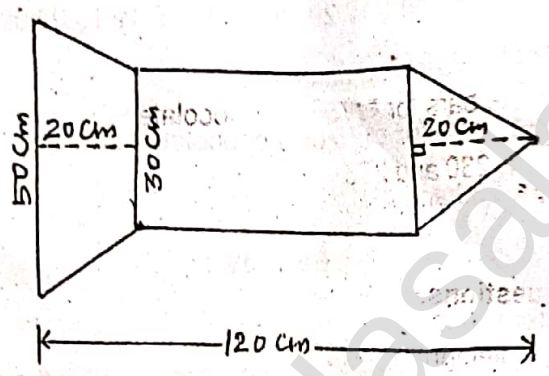
Part - III

VI. Answer any 8 questions.

36. Arrange in ascending and descending order : $\frac{-17}{10}, \frac{-7}{5}, 0, \frac{-2}{4}, \frac{-19}{20}$

37. Find the cube root of $24 \times 36 \times 80 \times 25$

38. A rocket drawing has the measure as given in the figure. Find its area.

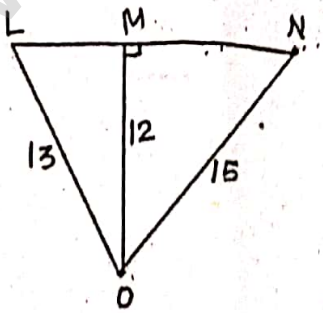


39. Find the volume of the cuboid whose dimensions are $(x + 2)$, $(x - 1)$ and $(x - 3)$

40. Factorise : $64x^3 + 144x^2 + 108x + 27$

41. The population of a town is increasing at the rate of 6% p.a. It was 238765 in the year 2018. Find the population in the year 2016 and 2020.

42. Find LM, MN, LN and also the area of ΔLON.



43. A survey gives the following information of food items preferred by people.

Items	Vegetables	Meat	Salad	Fruits	Sprouts	Bread
No. of people	160	90	80	50	30	40

44. Match the following : (A = 00, ... z = 25)

i) Mathematics - a) 18 20 01 19 17 00 02 19 08 14 13

ii) Addition - b) 03 08 21 08 18 08 14 13

iii) Subtraction - c) 12 00 19 07 04 12 00 19 08 02 18

iv) Multiplication - d) 00 03 03 08 19 08 14 13

v) Division - e) 12 20 11 19 08 15 11 15 02 00 19 08 14 13

45. Find the best buy of the following purchases :

A pack of 5 chocolate bars for ₹175 or 3 chocolate bars for ₹114?

46. Find the HCF of 184, 230 and 276

Part - IV

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

47. a) Construct a parallelogram BIRD with BI = 6.5 cm, IR = 5 cm and ∠BIR = 70°. Also find its area.

(OR)

b) Construct a square LAMP of side 4 cm. Also find its area.

48. a) Draw the graph of y = –3x

(OR)

b) Draw the graph of y = x + 1

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