DALMIA HR. SEC .SCHOOL ,DALMIAPURAM.TRICHY
MODEL HALF YEARLY EXAM -2022 MARKS: 100
Std: 8 MATHEMATICS TIME:2.30 Hrs.

I. Choose the best answer from the following options: (14 x 1 = 14)

1. $\frac{-5}{4}$ 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

2. $\left(\frac{3}{4}-\frac{5}{8}\right)+\frac{1}{2}=$ _____ (a) $\frac{15}{64}$ (b) 1 (c) $\frac{5}{8}$ (d) $\frac{1}{16}$

3. $\sqrt{48}$ is approximately equal to _____ (a) 5 (b) 6 (c) 7 (d) 8

4.Area of a equilateral triangle is _____
(a) $\frac{\sqrt{3}}{4}a^2$ (b) $\frac{1}{2}$ bh (c) $\frac{1}{2}$ x d_1 x d_2 (d) a^2

5. If the area of a square is $36\ x^4y^2$ then, its side is _____
(a) $6\ x^4\ y^2$ (b) $8\ x^4\ y^2$ (c) $6\ x^2\ y$ (d) $-6\ x^2\ y$

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

7. One factor of x^3+y^3 is (a) $(x-y)$ (b) $(x+y)$ (c) $(x+y)^3$ (d) $(x-y)^3$

8. 12% of 250 litre is the same as _____ of 150 litre.
(a) 10% (b) 15% (c) 20% (d) 30%

9. What is the marked price of a hat which is bought for ₹210 at 16% discount? (a) ₹243 (b) ₹176 (c) ₹230 (d) ₹250

10. 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) 6 (d) 12

11. Two similar triangles will always have _____angles.
(a) acute (b) obtuse (c) right (d) matching.

12. The hypotenuse of a right angled triangle of sides 12cm and 16cm is _____. (a) 28 cm (b) 20 cm (c) 24 cm (d) 21 cm

13. How many outcomes can you get when you toss three coins once?
(a) 6 (b) 8 (c) 3 (d) 2

14. Two numbers are said to be co-prime numbers if their HCF is
(a) 2 (b) 3 (c) 0 (d) 1

II. Filling in the blanks : **(5 X 1 = 5)**

15. The rational numbers $\frac{-8}{3}$ and $\frac{8}{3}$ are equidistant from _____.

16. A cube has _____ faces.

17. (0, −5) point lie on _____ axis.

18. If x % of x = 25, then x = _____.

19. In any triangle _____ sides are opposite to equal angles.

20. If the sides of a triangle are in the ratio 5:12:13 then, it is _____

III . Match the following : **(5 x 1=5)**

21. Area of a circle - (a) $\frac{1}{4}\pi r^2$

22. Circumference of a circle - (b)$(\pi + 2)r$

23. Area of the sector of a circle - (c) πr^2

24. Circumference of a semicircle - (d) $2\pi r$

25. Area of a quadrant of a circle - (e) $\frac{\theta^\circ}{360^\circ} \times \pi r^2$

IV. Two-mark Questions : **(10 X 2 =20)**

(Answer any 10 Questions)

26. Compare $\frac{3}{4}$ and $\frac{5}{6}$

27. Find the square root of 1156 by prime factorisation method.

28. Find the number in standard form for the following expansions:
$8 \times 10^4 + 7 \times 10^3 + 6 \times 10^2 + 5 \times 10^1 + 2 \times 1 + 4 \times 10^{-2} + 7 \times 10^{-4}$

29. For the sectors with given measures, find the length of the arc, area and perimeter. (π=3.14) central angle 45°, $r = 16\ cm$

30. Find the perimeter of the figures given below. ($p = \frac{22}{7}$)

31. Find the central angle of each of the sectors whose measures are given below. ($p = \frac{22}{7}$) area = 462 cm^2, r = 21 cm

32. Find the product of $2x^2y^2$, $3y^2z$ and $-z^2x^3$.

33. Simplify $\frac{3m^2}{m} + \frac{2m^4}{m^3}$

34. The sum of two numbers is 36 and one number exceed another by 8. Find the numbers.

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