

Name of the Student : _____ Roll No.:

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Name of the School : _____ Date : _____

Class : _____ Subject: Mathematics Time: 60 Min

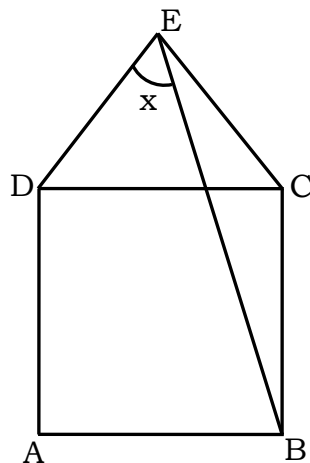
Instructions to the Candidate

1. Each question carries 1 mark. There is no negative marking.
2. Separate Optical Mark Reader (OMR) Answer Sheet is supplied to you along with question paper booklet.
3. Read the questions carefully and fill in the circle corresponding to your answer. Fill in the circle Completely.
4. Rough work should be done only in the space provided in the Question Paper Booklet.
5. Return the OMR Answer sheet to the invigilator before leaving the examination hall.
6. You can carry the question paper with you after completing the examination.
7. Once you enter the examination hall, you are not permitted to leave till the end of the examination.

VIII Class Mathematics

1. If $5^{x-y} = 625$ and $5^{x+y} = 3125$ then $4^x =$ _____
(A) 64 (B) 128 (C) 256 (D) 512
2. Which of the following is not a rational number when $n = 3$
(A) $\frac{n-2}{3}$ (B) $\frac{n-2}{n}$ (C) $\frac{n-1}{n-1}$ (D) $\frac{n-2}{n-3}$
3. Which of the following represents Euler's formula?
(A) $(V + F) - E = 2$ (B) $(E + V) - F = 2$
(C) $(V + E) - F = 1$ (D) $F + E - V = 2$
4. 40% of a number is 14, then the number = _____
(A) $\frac{28}{5}$ (B) 35 (C) 56 (D) 70
5. The value of $\sqrt{248 + \sqrt{52 + \sqrt{144}}}$ is _____
(A) 16 (B) ± 8 (C) ± 16 (D) 8
6. The marked price of an article is twice its cost price. For a gain of 15% what is the discount offered?
(A) 12.5% (B) 42.5% (C) 60% (D) 32.5%

7. If $2^{2021} + 2^{2021} = 2^x$ and $3^x (3^x + 3^x + 3^x) = 3^y$ then $y =$ _____
 (A) 4042 (B) 12126 (C) 2023 (D) 2024
8. Two taps can fill a tub in 5 min and 7 min respectively. A pipe can empty it in 3 min. If all the three kept open simultaneously when will the tub be fill?
 (A) 35 min (B) 75 min (C) 95 min (D) 105 min
9. If the angles in a triangle are in the ratio 1 : 2 : 3, the corresponding sides are in the ratio _____
 (A) 1 : 2 : 3 (B) 1 : 3 : 2 (C) $1 : \sqrt{2} : 3$ (D) $1 : \sqrt{3} : 2$
10. If $A = \{3, 4, 5, 6, 7\}$, $B = \{1, 2, 8\}$ then $n(A \cap B) =$ _____
 (A) 0 (B) 1 (C) 8 (D) 3
11. If $x - \frac{1}{x} = 5$ then $x^4 + \frac{1}{x^4} =$ _____
 (A) 27 (B) 727 (C) 729 (D) 731
12. If $x + y + z = 0$ then the value of $\frac{x^2}{yz} + \frac{y^2}{xz} + \frac{z^2}{xy} =$ _____
 (A) 1 (B) 2 (C) 3 (D) 4
13. The number in units place in $(2023)^{2023}$ is _____
 (A) 3 (B) 7 (C) 9 (D) 0
14. If $2^{n-1} + 2^{n+1} = 320$, then 'n' is equal to
 (A) 6 (B) 8 (C) 5 (D) 7
15. In the adjoining figure equilateral $\triangle EDC$ surmounts square ABCD.
 If $\angle DEB = x^\circ$ then the value of $x =$ _____

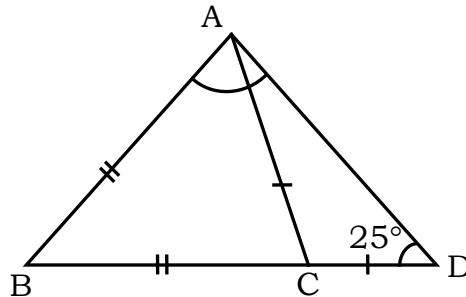


- (A) 15° (B) 45° (C) 60° (D) None of these

16. The diagonal of a rhombus are 30 cm and 16 cm then perimeter of the rhombus is _____

- (A) 68 cm (B) 17 cm (C) 240 cm (D) 16 cm

17. In the adjoining figure $\overline{AB} = \overline{BC}$ and $\overline{AC} = \overline{CD}$ and $\angle ADB = 25^\circ$, then $\angle BAD =$ _



- (A) 55° (B) 65° (C) 75° (D) 85°

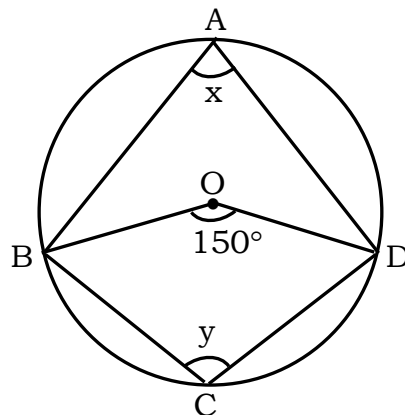
18. If the H.C.F of 210 and 55 is expressible in the form $210 \times 5 + 55y$, then $y =$ _____

- (A) 5 (B) -15 (C) 14 (D) -19

19. The internal angular bisectors of $\angle B$ and $\angle C$ meet at O in a ΔABC and $\angle BAC : \angle BOC = 1 : 2$, then $\angle BOC =$ _____

- (A) 60° (B) 120° (C) 144° (D) 72°

20. From the adjoining figure find $x : y$



- (A) 5 : 7 (B) 2 : 3 (C) 4 : 5 (D) 5 : 4

21. $0.\overline{9} + 0.2\overline{9} + 0.6\overline{9} =$ _____

- (A) 1 (B) $0.5\overline{9}$ (C) $0.1\overline{07}$ (D) 2

22. If $\left(1 - \frac{1}{2} - \frac{1}{3} - \frac{1}{4} - \dots - \frac{1}{2021}\right) + \left(\frac{1}{2} + \frac{1}{3} + \frac{1}{4} - \dots - \frac{1}{2022}\right) = \frac{x}{y}$, then

$x - y =$ _____

- (A) 2000 (B) 0 (C) 1 (D) 2023

23. There is a path of 1m width around and outside of a circular field 20m diameter. Then area of path is

- (A) 33 sq.m (B) 44 sq.m (C) 88 sq.m (D) 66 sq.m

24. What is the smallest number by which 3600 be divided to make it a perfect cube?
- (A) 9 (B) 50 (C) 300 (D) 450
25. If $x^{\sqrt{x}} = \sqrt{x^x}$, then solution set is _____
- (A) $\{0,4\}$ (B) $\{1,4\}$ (C) $\{0,1\}$ (D) $\{3,4\}$
26. If $1+7+7^2+7^3 = K^2$, then $K =$ _____
- (A) 17 (B) 18 (C) 19 (D) 20
27. If $a = -2$, $b = -3$ then the point $(a, -b)$ lies in the quadrant
- (A) First (B) Second (C) Third (D) Fourth
28. If $a : b = 3 : 2$ and $b : c = 6 : 5$ then $a : c =$ _____
- (A) 9 : 5 (B) 5 : 9 (C) 6 : 5 (D) 9 : 6
29. Find the number of terms in $7 \times a + b \div 3 - c + b$
- (A) 3 (B) 4 (C) 5 (D) 6
30. If $x^4 + \frac{1}{x^4} = 34$, then the value of $\left(x - \frac{1}{x}\right)$ is _____
- (A) 1 (B) 2 (C) 3 (D) 4
31. The mean of 25 observations is 18. One of the observations is taken as 72 instead of 27. Find the correct mean
- (A) 16 (B) 12.6 (C) 16.2 (D) 12
32. The mode first twenty five odd numbers is _____
- (A) 23 (B) 49 (C) 0 (D) does not exists
33. If a certain sum amounts to double the principal in 6 years, then the rate of simple interest is _____
- (A) 10% (B) $12\frac{1}{2}\%$ (C) $16\frac{2}{3}\%$ (D) $8\frac{1}{3}\%$

34. Number of axes of symmetry of an equilateral triangle
(A) 3 (B) 4 (C) 2 (D) 1
35. How many circles can be drawn through three non-collinear points?
(A) Infinite (B) 0 (C) 1 (D) 2
36. If $345A7$ is divisible by 3, then least value of A is ____
(A) 2 (B) 5 (C) 8 (D) 9
37. The product of multiplicative inverses of $\frac{-9}{2}$ and $\frac{5}{18}$ is
(A) $\frac{5}{4}$ (B) $\frac{-5}{4}$ (C) $\frac{4}{5}$ (D) $\frac{-4}{5}$
38. In a certain code INACTIVE is written as VITCANIE. How is ALIGATOR written in that code?
(A) ROTAGILA (B) ROTAGAIL (C) ROTAGILE (D) OTAGILAR
39. The T.S.A of a cuboid of measures $20\text{ cm} \times 10\text{ cm} \times 15\text{ cm}$ is ____ sq.cm
(A) 130 (B) 13000 (C) 1300 (D) None of these
40. Number of independent measurements are required to draw a unique quadrilateral is ____
(A) 3 (B) 4 (C) 5 (D) 6