



B.K. BIRLA CENTRE FOR EDUCATION

SARALA BIRLA GROUP OF SCHOOLS
A CBSE DAY-CUM-BOYS' RESIDENTIAL SCHOOL

ANNUAL EXAMINATION (2025-26)

MATHEMATICS

Class: VII

Date: 16.03.26

Admission no:

Set-1

Time: 3 hrs.

Max Marks: 80

Roll no:

General Instructions:

- This question paper consists of FIVE sections
- All answers must be correctly numbered as in the question paper and written in the answer sheet.
- Write neatly and draw diagrams wherever necessary.

Section A

Choose the correct answer

1 x 20 = 20

1. The value of 7^0 is _____.
(a) 7 (b) 21 (c) 1 (d) None of these
2. Angles which are both supplementary as well as vertically opposite are ____
(a) 95, 85 (b) 90, 90 (c) 100, 80 (d) 45, 45
3. The value of $(-1)^{101}$ is _____.
(a) -1 (b) 1 (c) 0 (d) None of these
4. An expression which contains two unlike terms is called _____.
(a) binomial (b) monomial (c) trinomial (d) None of these
5. If the angle P and angle Q are complementary angles and the measure of angle P is 60 degrees, then the measure of the angle Q is _____.
(a) 120 (b) 60 (c) 30 (d) 20
6. The constant term in the expression $1 + x^2 + x$ is _____.
(a) 1 (b) x (c) x^2 (d) None of these
7. What are the coefficients of y in the expression $yz^2 + 5$?
(a) z (b) z^2 (c) 1 (d) 5
8. The ratio of ₹ 5 to 50 paise is _____.
(a) 10:1 (b) 1:10 (c) 5 : 50 (d) 50 : 5
9. $0.65 =$ _____.
(a) $\frac{65}{100}$ (b) $\frac{76}{100}$ (c) $\frac{100}{65}$ (d) $\frac{6}{5}$

10. 100% of 250 = _____
 (a) 100 (b) 50 (c) 25 (d) 250
11. Find the perimeter of a triangle with sides 4 cm, 6 cm and 10 cm
 (a) 9 cm (b) 24 cm (c) 20 cm (d) 18 cm
12. The area of a rectangle is 16 cm^2 . If the breadth of the rectangle is 8 cm, find its length
 (a) 1 = 1 m (b) 1 = 2 cm (c) 1 = 2 cm (d) 1 = 1 hm
13. If the radius of a circle is 4 m, find its diameter,
 (a) 6 m (b) 4 m (c) 1 m (d) 8 m
14. The sum of the lengths of any two sides of a triangle is _____ the third side of the triangle.
 (a) greater than (b) half (c) less than (d) double
15. Which is the longest side of a right-angled triangle?
 (a) Base (b) Perpendicular (c) Hypotenuse (d) 3 sides
16. The difference between maximum and minimum value of a data is called ____
 (a) frequency (b) median (c) mean (d) range
17. The solution of the equation $m \div 40 = 40$ then $m = ?$
 (a) 1 (b) 160 (c) 1600 (d) None of these
18. Write the statement "2 subtracted from a number is 8" in the form of equations:
 (a) $x - 8 = 2$ (b) $x - 2 = 8$ (c) $x - 5 = 8$ (d) None of these
19. Assertion: The perimeter of a rectangle is twice the sum of its length and breadth.
 Reason: Perimeter is the total distance around the figure.
 (a) Both assertion and reason are correct and reason is a correct explanation for the assertion.
 (b) Both assertion and reason are correct, but the reason is not a correct explanation for the assertion.
 (c) The assertion is correct, but the reason is false.
 (d) Both assertion and reason are false.
20. Assertion: The ratio of 10m to 10 km is $1/1000$
 Reason: $10\text{m}/10\text{km} = 10\text{m}/10000\text{m} = 1/1000$
 (a) Both assertion and reason are correct and reason is a correct explanation for the assertion.
 (b) Both assertion and reason are correct, but reason is not a correct explanation for the assertion.
 (c) Assertion is correct, but reason is false.
 (d) Both assertion and reason are false.

Section B

Do as directed

2 x 5 = 10

21. Convert the given percent to decimal fractions and also fractions in simplest form: 25%

22. The runs scored in the cricket match by the 11 players are as follows:
6, 15, 80, 120, 50, 100, 10, 15, 8, 10 and 15. Find the Mean

23. Find the angles which are equal to the complement angle.

or

Find the complement angle of the adjoining figure



24. Two angles of a triangle are of measures 105° and 30° . Find the measure of the third angle.

25. Simplify: (a) 3×10^2 (b) $2^2 \times 5^3$

or

Write the following numbers in the expanded forms

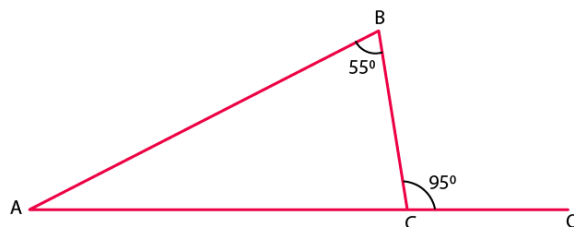
(a) 279404 (b) 3006194

Section C

Solve the following

3 x 6 = 18

26. In a triangle, an exterior angle at a vertex is 95° and its one of the interiors opposite angles are 55° . Find all the angles of the triangle.



27. Identify the greater number in each of the following:

(a) 2^5 or 5^2

(b) 3^4 or 4^3

(c) 3^5 or 5^3

28. Find, if $z = 10$, find the value of $z^3 - 3(z - 10)$.

or

If $m = 2$, find the value of : (a) $m - 2$ (b) $3m - 5$ (c) $9 - 5m$

29. Subhash and Neethu donate to a flood relief fund. Subhash donated ₹ 567 more than Neethu. The total donation is ₹ 1245.

(a) If Neethu donated x rupees, express Subhash's donation.

(b) Form the equation for the total donation.

(c) Find the amount Neethu donated.

30. The perimeter of a rectangle is 230 cm. If the length of the rectangle is 70 cm. Find its breadth and area.

or

Find the area of a square park whose perimeter is 320m.

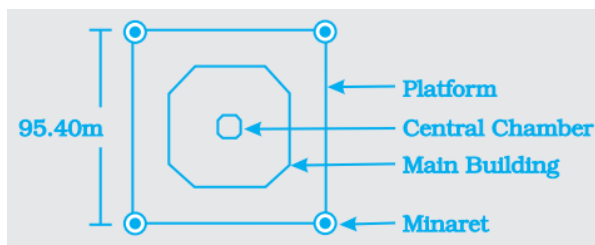
31. In a city, 30% are females, 40% are males and remaining children are 3000. Find the number males and females and also what percent are children?

Section D

Solve the following

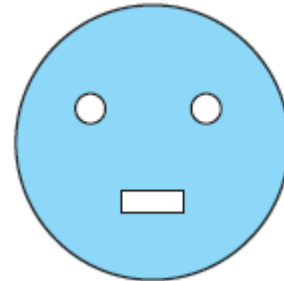
5 x 4 = 20

32. The Taj Mahal stands on a square platform that is 95 m on each side. What is the area of this square in square metres? The floor area of the main building is 3214 m². What is the area of the part of the platform that is not covered by the main building?



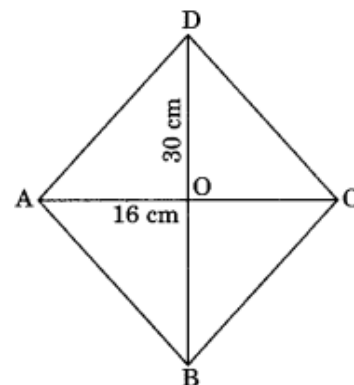
or

From a circular card sheet of radius 14 cm, two circles of radius 3.5 cm and a rectangle of length 3 cm and breadth 1 cm are removed. (As shown in the adjoining figure.) Find the area of the remaining sheet. (Take $\pi = 22/7$)



33. (a) Simplify the expression: $2(a^2 + ab) + 3 - ab$, and find its value when $a = 5$ and $b = -3$.
 (b) If $p = -10$, find the value of $p^2 - 2p - 100$

34. The diagonals of a rhombus measure 16 cm and 30 cm. Find its perimeter.



or

A tree is broken at a height of 5 m from the ground, and its top touches the ground at a distance of 12 m from the base of the tree. Find the original height of the tree.

35. Number of children in six different classes are given below. Represent the data on a bar graph.

Class	Fifth	Sixth	Seventh	Eighth	Ninth	Tenth
No. of children	135	120	95	100	90	80

How would you choose a scale?

Section E

Do as directed

4 x 3 = 12

36. A mathematics teacher gives a worksheet to students to test their understanding of laws of exponents. The worksheet contains different situations where powers of numbers are compared or simplified to find the value of an unknown exponent n .

Read the situations carefully and answer the questions that follow.

Case:

(a) In the first situation, a student simplifies an expression involving powers of 5 and finds that

$$5^{2n} \times 5^3 = 5^{11}$$

(b) In another situation a student multiplies power of 3 and gets

$$9 \times 3^n = 3^7$$

(c) The third situation a student observes that multiplying powers of 2 gives

$$8 \times 2^{n+2} = 32$$

(d) In final situation a student divides powers of 7 and finds

$$\frac{7^{2n+1}}{49} = 7^3$$

Questions:

- Find the value of n in the first situation.
- Find the value of n in the second situation.
- Find the value of n in the third situation.
- Find the value of n in the fourth situation.

37. A teacher tells her class that the highest marks obtained by a student in the class is twice the lowest marks obtained plus 7. The highest score is 87.

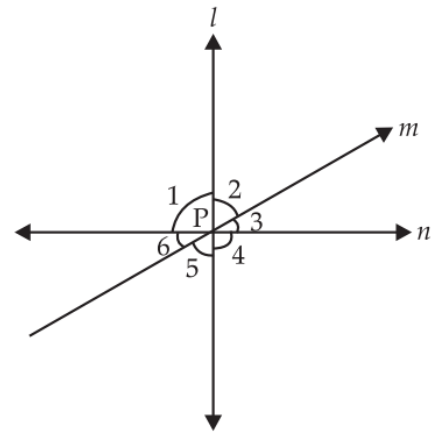
- Write the expression
- Find the lowest marks

38. Three roads shown in the figures intersect each other at point P.

Road l is perpendicular to Road n.

The measure of $\angle 2$ is 65° .

- (a) What is the measure of $\angle 6$?
- (b) What is the sum of the measure of $\angle 3$ and $\angle 4$?
- (c) Why $\angle 1 = \angle 4$?
- (d) Write all the vertically opposite angles given in the above figure.



ALL THE BEST