



BK BIRLA CENTRE FOR EDUCATION
SARALA BIRLA GROUP OF SCHOOLS
SENIOR SECONDARY | CO-ED DAY CUM BOYS' RESIDENTIAL SCHOOL



ANNUAL EXAMINATION, 2026

MATHEMATICS (041), Set 1

Class : VIII
Date : 10-03-2026
Admission No.:

Duration: 3 Hrs
Max. Marks: **80**
Roll No.:

General Instructions:

1. This Question Paper has 5 Sections A, B, C, D and E.
2. Section A has 20 MCQs carrying 1 mark each.
3. Section B has 5 questions carrying 02 marks each.
4. Section C has 6 questions carrying 03 marks each.
5. Section D has 4 questions carrying 05 marks each.
6. Section E has 3 case based integrated units of assessment (04 marks each) with sub- parts of the values of 1, 1 and 2 marks each respectively.
7. All Questions are compulsory. However, an internal choice in 2 Qs of 2 marks, 2 Qs of 3 marks and 2 questions of 5 marks has been provided.

SECTION A

1. If a coin is flipped in the air, what is the probability of getting a tail?
a) 0 b) $\frac{1}{2}$ c) 1 d) 2
2. Double bar graphs display ----- sets of data simultaneously.
a) Four b) Three c) Two d) No
3. The ratio of speed of cycle 12 km per hour to the speed of scooter 36 km per hour is
a) 1:2 b) 1:3 c) 1:4 d) None of the above
4. If 50% of students are good at science out of 20 students. Then the number of students good at science is:
a) 10 b) 15 c) 5 d) 11
5. $a^2 - b^2$ is a product of
a) $(a + b)(a - b)$ b) $(a + b)(a + b)$ c) $(a - b)(a - b)$ d) None of these
6. If we subtract $4a - 7ab + 3b + 12$ from $12a - 9ab + 5b - 3$, then the answer is:
a) $8a + 2ab + 2b + 15$ b) $8a + 2ab + 2b - 15$ c) $8a - 2ab + 2b - 15$ d) $8a - 2ab - 2b - 15$
7. The area of a rhombus is 240 cm^2 and one of the diagonals is 16 cm. Find the other diagonal.
a) 16 cm b) 20 cm c) 30 cm d) 36 cm
8. The surface area of cube of side 6 cm is:
a) 144 cm^2 b) 24 cm^2 c) 216 cm^2 d) 116 cm^2
9. The factors of $6xy - 4y + 6 - 9x$ are:
a) $(3x + 2)(2y + 3)$ b) $(3x - 2)(2y - 3)$ c) $(3x - 2)(2y + 3)$ d) $(3x - 2)(2y - 3)$
10. The factors of $m^2 - 256$ are:
a) $(m + 4)^2$ b) $(m - 4)^2$ c) $(m - 4)(m + 4)$ d) None of the above
11. A graph that displays data that changes continuously over periods of time is called:
a) Bar-graph b) Pie-chart c) Double Bar Graph d) Line Graph
12. The point where the x - axis and y - axis intersect is called
a) x - axis b) y - axis c) origin d) none of these
13. The age of the father is three times the age of the son. If the age of the son is 15 years old, then the age of the father is:

- a) 50 years b) 55 years c) 40 years d) 45 years
14. The solution of the equation $2(x - 5) = x - 4$ is :
 a) 6 b) 7 c) 3 d) No solution
15. The perimeter of a parallelogram whose parallel sides have lengths equal to 12 cm and 7 cm is:
 a) 21 cm b) 42 cm c) 19 cm d) 38 cm
16. In a parallelogram ABCD, angle A and angle B are in the ratio 1:2. the angle A is
 a) 30° b) 45° c) 60° d) 90°
17. $x^{a-b} \times x^{b-c} \times x^{c-a}$ is equal to
 a) x^a b) x^b c) x d) 1
18. The standard form of 492000 is:
 a) 4.92 b) 4.92×10^5 c) 4.92×10^{-5} d) 49.2×10^4
19. **Assertion (A)** $4x + x = 2$ is a linear equation.
Reasons (R) Solution of the equation is -2.
 a) Both A and R are true and R is the correct explanation of A
 b) Both A and R are true but R is not the correct explanation of A
 c) A is true but R is false
 d) A is false but R is true
20. Assertion: (A): $(2^0 + 4^{-1}) \times 2^2$ is equal to 6
Reason(R): The power of a number says how many times to use the number in a multiplication.
 a) Both A and R are true and R is the correct explanation of A
 b) Both A and R are true but R is not the correct explanation of A
 c) A is true but R is false
 d) A is false but R is true

SECTION B

21. A bag contains 3 red balls, 5 black balls and 4 white balls. A ball is drawn at random from the bag. What is the probability that the ball drawn is: i) white? ii) red?
22. Convert the following ratio to percentages:
 a) 3:4 b) 2:3

OR

A man borrowed Rs 8500 from a money lender at 20 % p.a. for 5 years. Find the simple interest.

23. Add the following.
 i) $2p^2q^2 - 3pq + 4$, $5 + 7pq - 3p^2q^2$ ii) $l^2 + m^2$, $m^2 + n^2$, $n^2 + l^2$, $2lm + 2mn + 2nl$
24. Find the product. i) $(5 - 2x)(3 + x)$ ii) $(x + 7y)(7x - y)$
25. Find the value of: i) $(3^0 + 4^{-1}) \times 2^2$ ii) $(\frac{1}{2})^{-5}$

OR

Simplify using laws of exponents: $(\frac{5}{8})^{-2} \times (\frac{5}{8})^{-3} \times (\frac{5}{8})^5$

SECTION C

26. The number of students in a hostel speaking different languages is given below. Display the data in a pie chart.

Language	Hindi	English	Marathi	Tamil	Bengali	Total
Number of students	40	12	9	7	4	72

27. Simplify. i) $(7m - 8n)^2 + (7m + 8n)^2$ ii) $(4m + 5n)^2 + (5m + 4n)^2$

28. Factorise using the identity: a) $49y^2 + 84yz + 36z^2$ b) $9x^2y^2 - 16$

29. Solve: $3(5z - 7) - 2(9z - 11) = 4(8z - 13) - 17$

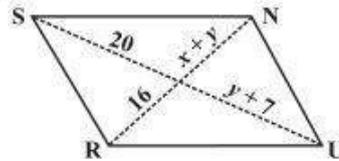
OR

$$\frac{3y-2}{4} - \frac{2y+3}{3} = \frac{2}{3} - y$$

30. Two adjacent angles of a parallelogram are $(2x + 10)^\circ$ and $(3x - 10)^\circ$. Find the measure all the angles of parallelogram.

OR

Find the value of x and y



31. Find the value of x so that $5^{2x+1} \div 25 = 125$

OR

Express the following in usual form: i) 3.85×10^5 ii) 3.21×10^{-5} iii) 1.23×10^{-5}

SECTION D

32. During a sale, a shop offered a discount of 10% on the marked prices of all the items. What would a customer have to pay for a pair of jeans marked at ₹ 1450 and two shirts marked at ₹ 850 each?

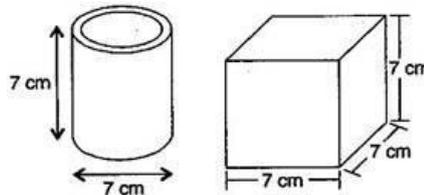
OR

Find the compound interest on Rs 12600 for two years at 10 % per annum compounded annually.

33. Factorise the expression and divide it.

$$m^2 - 14m - 32 \div (m + 2)$$

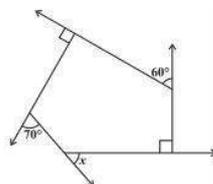
34. Describe how the two figures below are alike and how they are different. Which box has larger lateral surface areas?



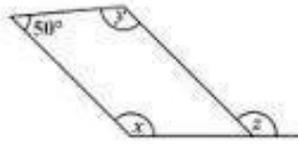
OR

A flooring tile has the shape of a parallelogram whose base is 24 cm and the corresponding height is 10 cm. How many such tiles are required to cover a floor of area 1080 m^2 ?

35. a) Find x in the following figures.

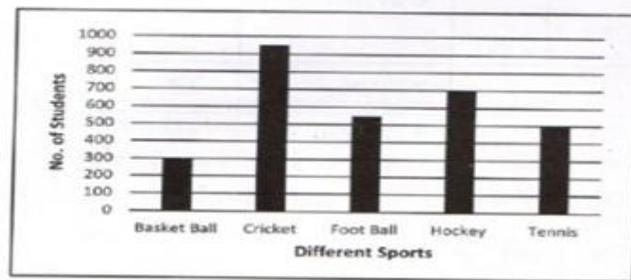


b) Following figure is parallelogram, find the value of the unknown x, y, z



SECTION E

36. Along with many negative impacts on the lives of the people, the covid pandemic has brought One significant positive impact of making people realize the importance of Healthy and active Life Style . To create awarness among 300 students of a school , the school authorities madatory for its students to choose one outdoor sport. The number of students choose different sports as per Bar Graph below .



Based on the above information given answer the following.

i) Find the difference between the number of students who opted for Cricket and Basket ball. 2

OR

Find total number of students who opted for Football and Hockey . 1

ii) How many students opted for Tennis ? 1

iii) How many students opted for Basket ball ? 1

37. The following line graph shows the yearly sales figures for a manufacturing company Using the graph answer the following questions.

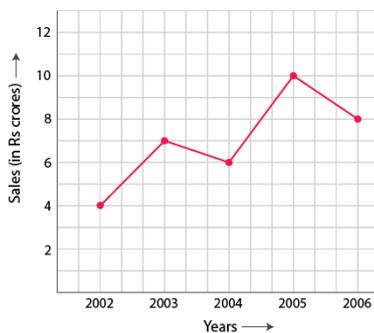
i) What is the sales in 2006 ? 1

ii) What is the sales in 2003 ? 1

iii) What is the difference between sales in 2004 and 2002 ? 2

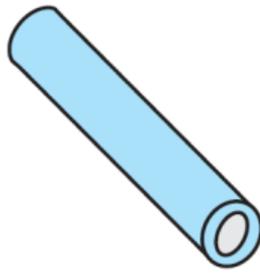
OR

What is the difference between sales in 2002 and 2006.



38. Savitri had to make a model of a cylindrical kaleidoscope for her science project. She wanted to use chart paper to make the curved surface of the kaleidoscope.

She wanted to make a kaleidoscope of length 25 cm with a 7cm diameter? (use $\pi \frac{22}{7}$)



Answer the following questions based on the above information:

i) Find the radius of the kaleidoscope. 1

ii) Find the curved surface area of chart paper required. 2

OR

Find the cost of 5 chart papers if the cost of one chart paper is Rs 13.5.

iii) Write the formula for volume of Cylinder. 1

***** *ALL THE BEST* *****