

SATISH CHANDRA MEMORIAL SCHOOL

CLASS TEST-II (HOTS) (2025-26)

CLASS IX

MATHEMATICS

Time Allowed: 40 Mins

Maximum Marks: 16

General Instruction:

- 4 questions carrying 04 marks each.
 - All Questions are compulsory. Show calculation wherever required.
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1. The table given below shows the number of persons from various age groups who participated in a campaign for promoting "USE OF CLEAN FUEL".

Age Group	10-15	15-20	20-25	25-30	30-35	35-40
No. of persons	12	25	22	37	48	30

Answer the following questions

- Determine the class size.
- Write the class limits of first class interval.
- What is the class mark of fourth class interval?
- Which class interval has maximum frequency?

2. Draw a histogram for the following distribution:

Marks	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80
No of students	7	10	6	8	12	3	2	3

- Prove that the angle subtended by an arc at the centre is double the angle subtended by it at any point on the remaining part of the circle
- In a circle of radius 18 cm, AB and AC are two chords such that $AB = AC = 12$ cm. Find the length of chord BC

SATISH CHANDRA MEMORIAL SCHOOL

CLASS TEST-II (CASE STUDY) (2025-26)

CLASS IX

MATHEMATICS

Time Allowed: 40 Mins

Maximum Marks: 14

Case study: 1 (2+2+2+2)

The Class Teacher of Class X is diligently preparing a comprehensive result analysis for a student. To gain a clearer understanding of the student's academic progress, she compares the marks obtained in Class IX (2018-19) and Class X (2019-20) across various subjects. Using a double bar graph, the teacher visually represents the data to identify trends, such as improvements, consistency, or areas requiring attention. This graphical comparison helps in drawing meaningful insights into the student's performance over the two years, enabling the teacher to provide personalized feedback and guidance for further improvement. The double bar graph is illustrated below, showcasing the subject-wise comparison of marks

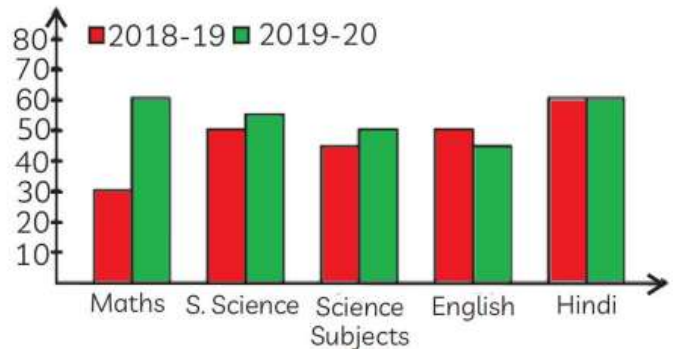
On the basis of the above information solve the following questions.

(a) In which subject has the performance improved the most?

(b) In which subject has the performance deteriorated?

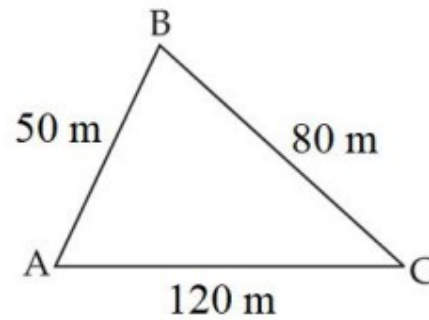
(c) What is the difference of marks in Maths in the given academic years?

(d) What is the percentage of marks obtained by a student in Class X (2019-20)?



Case Study: II (2+2+2)

In my colony a park is situated in front of my house. This park has built in shape of triangle (ABC) with the following sides 120m, 80m and 50m. Now-a-days, some animals entered park and destroy and eat plants. So, our ward member of area has decided to put railing around the park for protecting plants and grass. Ward member ordered to a gardener to place a railing all around this park and maintain grass inside park. He also sanctioned an amount to improve park in a proper way for public of that colony. Costing is decided Rs. 10 per meter for railing around the park.



- (i) What is the perimeter of the park?
- (ii) Calculate the semi-perimeter of triangle park, in which planting is needed?
- (iii) Calculate the area, in which planting is needed?