

Dear Students,

Class-X

Warm greetings on the auspicious occasion of Durga Puja! 🌸 ✨
May Maa Durga bless you with wisdom, happiness, and good health.

As you enjoy your holidays with family and friends, make sure to also utilize your time productively. Your Holiday Homework has been designed to help you revise important concepts and enhance your skills.

Subject	Holiday Homework
English	Do all the questions of literature section of Term 1 exam in copy.(Only Literature section)
Maths (Practices of Case Study Based Questions according to CBSE BOARD:- Chapters: Triangles, Arithmetic Progressions, Polynomials, Areas Related to Circles ,Trigonometry , Coordinate Geometry, Statistics and Quadratic Equations.)	<p><u>SOME PREVIOUS YEAR QUESTIONS FROM CBSE BOARD. (CLASS-10th)</u></p> <p><u>Year 2025</u></p> <p>Q1. (Trigonometry) A student standing 15 meters away from the base of a vertical tower observes the top of the tower at an angle of elevation of 30°. Later, the student moves closer to the tower at a distance of 10m and again measures the angle of elevation. a) Draw a right triangle representing the situation. b) Calculate the tower's height from 15 m away. c) What will be the height if the student is 10 m away and observes at 30°? d) Why does the tower's height remain constant even though the distance changes? e) Name two real-life applications of trigonometry.</p> <p>Q2. (Coordinate Geometry) Two friends, Aman and Raj, live at points A(2, -1) and B(8, 3) on a map. They want to meet at a midpoint location to plan a café. They also want to find the slope of the road and equation of the road that connects their houses. a) Find the midpoint of their houses. b) Determine the slope of the line AB.</p>

- c) Write the equation of line AB.
- d) What does the slope indicate in terms of steepness?
- e) Why is coordinate geometry important in map-making?

Year 2024

Q3. (Arithmetic Progression)

Sanjitha is an athlete. Initially her throw = 7.56 m. She improves 9 cm every week. During a special 15-day camp, she starts with 40 throws, and every day increases her number of throws by 12.

- a) How many throws does Sanjitha practice on the 11th day of the camp?
- b) What would be Sanjitha's throw distance at the end of 6 weeks?
- c) When will she achieve a throw of 11.16 m?

Year 2023

Q4. (Statistics)

The following table shows the ages of children playing in a park:

Age group (in years): 6-8, 8-10, 10-12, 12-14, 14-16

Number of children: 15, 20, 25, 18, 22

- a) Draw a histogram representing the data.
- b) Identify the modal class.
- c) Calculate the mode of the ages.
- d) Interpret the result in context.

Q5. (Quadratic Equations)

A group of students collect money to help flood victims. Each student donates the same amount. If there were 2 students less, each would have contributed ₹60 more. If the number of students was 4 more, each would have contributed ₹30 less.

- a) Form the quadratic equation based on the above situation.
- b) Solve to find the number of students and the contribution of each student.

Year 2022

Q6. (Polynomials)

A carpenter cuts a piece of wood in the shape

of a polynomial curve given by $p(x) = x^3 - 6x^2 + 11x - 6$. a) Find the zeroes of the polynomial.
b) Verify the relationship between zeroes and coefficients.
c) Draw a rough sketch of the curve.

TOPIC WISE or CHAPTER WISE CASE STUDY BASED QUESTIONS FOR UPCOMING BOARD EXAMINATION:-

1. Triangles

Q1. A flagstaff stands on the top of a building. From a point on the ground, the angle of elevation of the top of the building is 30° and that of the top of the flagstaff is 45° . If the building is 20 m high,

- a) Draw a diagram for the situation.
- b) Find the height of the flagstaff.
- c) Find the distance of the point from the building.
- d) Why do surveyors frequently use the concept of similarity of triangles in such problems?

Q2. A ladder 10 m long is leaning against a wall. The foot of the ladder is kept 6 m away from the wall.

- a) Find the height of the wall reached by the ladder.
- b) If the top of the ladder slips down 2 m, find the distance the foot of the ladder has to be moved.
- c) Which mathematical property of right triangles is used here?
- d) Mention one real-life use of Pythagoras theorem.

2. Arithmetic Progression

Q3. A fruit seller arranges oranges in rows to form a triangular pattern. The first row has 1 orange, the second has 2, the third has 3, and so on.

- a) Write the AP formed by the number of oranges in each row.
- b) How many oranges will be there in the 20th row?
- c) Find the total number of oranges in the first 20 rows.

d) Suggest another real-life situation where AP is observed.

Q4. A student saves ₹50 in the first week, ₹70 in the second week, ₹90 in the third week, and so on.

- a) Write the AP formed by his weekly savings.
- b) How much will he save in the 15th week?
- c) Find his total savings in 15 weeks.
- d) Why is AP useful in planning financial savings?

3. Polynomials

Q5. The path of a rocket is modeled by the polynomial $p(x) = x^2 - 6x + 5$.

- a) Find the zeroes of the polynomial.
- b) Verify the relationship between zeroes and coefficients.
- c) Plot a rough sketch of the graph.
- d) Why are polynomials useful in modeling real-life problems like rocket trajectories?

Q6. A toy company designs a box in the form of a cubic polynomial $f(x) = x^3 - 4x^2 + x + 6$.

- a) Find the zeroes of the polynomial.
- b) Verify the relationship between the zeroes and coefficients.
- c) Draw a rough sketch of the graph.
- d) How can such polynomial models help manufacturers?

4. Areas Related to Circles

Q7. A circular park has a path running along its boundary. The radius of the park is 35 m and the path is 5 m wide.

- a) Find the area of the path.
- b) Find the cost of laying the path at ₹50 per m^2 .
- c) If the park is divided into 4 equal parts by two perpendicular diameters, find the area of one part excluding the path.
- d) Why is knowledge of circular areas important in city planning?

Q8. Two circular flower beds of radius 21 m each are to be made on a square plot of side 60 m.

- a) Find the combined area of the two flower beds.
- b) Find the area of the remaining portion of the plot.

	<p>c) What is the ratio of the area of the flower beds to the remaining portion?</p> <p>d) Why do gardeners prefer circular beds in landscaping?</p>
SANSKRIT	<p>प्रश्न 1. पाठ 3 गीता के दो श्लोक चार्ट पेपर में लिखें और याद करें।</p> <p>प्रश्न 2. उद्यान का चित्र बनाएं तथा पांच वाक्य संस्कृत में लिखें।</p>
Hindi	<p>1. स्ट्रैपबुक अथवा चार्ट पेपर पर वाक्य की परिभाषा, रचना के आधार पर वाक्य के भेद, भेदों की परिभाषाएं पांच- पांच उदाहरण सहित लिखें।</p> <p>अथवा</p> <p>वाक्य की परिभाषा, भेद एवं भेदों की परिभाषाएं पांच-पांच उदाहरण के साथ लिखें।</p> <p>(स्ट्रैपबुक या चार्ट पेपर पर)</p> <p>2. 'आत्मकथ्य' कविता एवं अर्थ सहित उसकी व्याख्या याद करें।</p>
I.T	<ol style="list-style-type: none"> 1) Explain 7Cs of communication. 2) What are barriers to effective communication? Explain. 3) What are myths about Entrepreneurship? Explain any two. 4) Define them:- <ol style="list-style-type: none"> a) Solver b) Goal Seek c) Scenario d) Macro 5) Write at least 10 MCQ on topic “Digital Documentation(Advanced)” and “Electronic Spreadsheet (Advanced)” (Write in Practical copy)
A.I	<ol style="list-style-type: none"> 1. Explain 7Cs of communication. 2. What are barriers to effective communication? Explain. 3. What are myths about Entrepreneurship? Explain any two. 4. What are the Domains of AI? Explain it. 5. Write at least 10 MCQ on topic : <ol style="list-style-type: none"> a) Revisiting AI Project Cycle and Ethical Framework for AI.

	<p>b) Advanced concepts of Modeling in AI. (Write in Practical copy)</p>
Social science	<p>Prepare a flowchart of major Dams of India showing names,setup year,states,on which rivers and also locate each dams on political map.</p>
Science	<p>BIOLOGY 1.Explain the process of digestion in humans. Mention the role of enzymes in it.(On chart paper)</p> <p>CHEMISTRY 1) To solve all chemistry questions of the Half yearly exam in Homework Copy.</p> <p>2) On chart paper show the detailed process of metallurgical extraction of Cu, Zn and Fe from their ores.</p> <p>PHYSICS To solve all physics questions of the Half yearly exam in Homework Copy.</p>

Kindly complete it neatly and submit it on the first day after the vacation.
Wishing you joyful celebrations and a fruitful break!