

PM SHRI KENDRIYA VIDYALAYA KEYLONG
HOLIDAY HOMEWORK (15 October to 24 October 2026)

Class 9TH | Mathematics

Name: _____ Section: _____ Roll No.: _____

Instructions: Attempt 4 questions each day, in the order given. Write neatly in your notebook, show all steps, and draw graphs and figures on graph paper or with a ruler and pencil.

Day 1: Thursday, 15 October

Chapter 1: Orienting Yourself: The Use of Coordinates

- Q1. Plot A(3, 2), B(-2, 4), C(-4, -3), D(5, -1) and state the quadrant of each.
- Q2. (2, 3), (2, -4) and (-5, -4) are three vertices of a rectangle. Find the fourth vertex and the area.
- Q3. Write the coordinates of (a) a point on the x-axis 5 units left of the origin, (b) a point on the y-axis 3 units below the origin.
- Q4. Plot (1, 1), (4, 1), (4, 5), join them and find the area of the triangle. Then write the coordinates of the reflection of each vertex in the x-axis.

Day 2: Friday, 16 October

Chapter 2: Introduction to Linear Polynomials

- Q1. Find the zero of $p(x) = 3x - 7$ and of $q(x) = 5x + 2$.
- Q2. Solve: $2(x - 3) + 5 = 3x - 4$.
- Q3. The cost of 3 pens and 2 notebooks is ₹70. Write a linear equation in two variables and find three solutions.
- Q4. Draw the graph of $y = 2x - 1$ using a table of values. Does (2, -3) lie on the line $3x + 2y = 0$?

Day 3: Saturday, 17 October

Chapter 3: The World of Numbers

- Q1. Classify as rational or irrational: $\sqrt{49}$, $\sqrt{20}$, 0.101001000..., $22/7$, π .
- Q2. Express 0.363636... (0.36 repeating) in the form p/q .
- Q3. Find two rational and one irrational number between 2 and 3.
- Q4. Simplify $(3 + \sqrt{2})(3 - \sqrt{2})$, and rationalise $1/(\sqrt{5} + \sqrt{3})$.

Day 5: Monday, 19 October

Chapter 4: Exploring Algebraic Identities

- Q1. Expand $(2x + 3y)^2$ and $(x - 1/x)^2$.
- Q2. Using identities, evaluate 103×97 and 102^2 .
- Q3. If $x + 1/x = 5$, find $x^2 + 1/x^2$.
- Q4. Factorise $27a^3 - 64b^3$.

Day 7: Wednesday, 21 October

Chapter 5: I'm Up and Down, and Round and Round (Circles)

- Q1. Define radius, diameter, chord, arc, secant and tangent. Draw a circle and label each one.
- Q2. A chord of length 16 cm is 6 cm from the centre of a circle. Find the radius.
- Q3. The radius of a circle is 13 cm and a chord is 24 cm long. Find the distance of the chord from the centre.
- Q4. In a circle with centre O, the angle subtended by arc AB at the centre is 100° . Find the angle subtended by the same arc at a point on the remaining part of the circle, and the angle in a semicircle.

Day 8: Thursday, 22 October

Chapter 6: Measuring Space: Perimeter and Area

- Q1. A rectangle's perimeter is 40 cm and its length is twice its breadth. Find its area.

- Q2.** Find the area of a triangle with sides 13 cm, 14 cm, 15 cm (Heron's formula), and the height on the 14 cm side.
- Q3.** The circumference of a circle is 44 cm. Find its area ($\pi = 22/7$).
- Q4.** A 2 m wide path runs around the outside of a $30\text{ m} \times 20\text{ m}$ garden. Find the area of the path and its cost at ₹15 per m^2 .

Day 9: Friday, 23 October

Chapter 7: The Mathematics of Maybe: Introduction to Probability

- Q1.** A coin is tossed 500 times and shows heads 280 times. Find the experimental probability of heads and of tails.
- Q2.** A fair die is rolled. Find $P(\text{prime number})$, $P(\text{number greater than 4})$, $P(\text{not 6})$.
- Q3.** A bag has 5 red, 3 blue and 2 green balls. Find the probability of drawing each colour and verify the probabilities add up to 1.
- Q4.** In a class of 40 students, 8 are left-handed. If one student is chosen at random, what is the probability the student is not left-handed?

Day 10: Saturday, 24 October

Chapter 8: Predicting What Comes Next: Exploring Sequences and Progressions

- Q1.** Find the next three terms: (a) 3, 7, 11, 15... (b) 2, 6, 18, 54... (c) 1, 4, 9, 16...
- Q2.** An AP has first term 5 and common difference 3. Find its 20th term and the sum of the first 20 terms.
- Q3.** Which term of the AP 2, 9, 16, ... is 100?
- Q4.** Ria saves ₹10 in week 1 and increases her saving by ₹5 each week. How much does she save in week 12, and how much in total over 12 weeks?

SUBJECT – ART EDUCATION

CLASS – 9th

MAKE 02 LANDSCAPE PAINTING WITH WATERCOLOUR OR POSTER COLOUR .

ARTIFICIAL INTELLIGENCE CLASS 9

Activity 1: Problem Scoping Using 4Ws

Select a real-life problem and analyse it using the 4Ws framework:

- Who: Who is affected by the problem?
- What: What exactly is the problem?
- Where: Where does the problem occur?
- Why: Why is solving it important?

Write a clear problem statement and suggest how AI could help.

Activity 2: Data Acquisition and Exploration

Collect or create a small dataset containing at least 15 records. You may choose daily temperatures, plant growth, waste collected, or students' preferred learning methods.

1. Identify the data fields.
2. Explain how the data could be collected.
3. Identify any missing or incorrect values.
4. Present the data using a table or graph.
5. Explain two observations from the data.

Do not collect identifiable or sensitive personal information.

Activity 3: AI Domains in Real Life

Prepare a comparison chart covering:

- Data Science
- Computer Vision
- Natural Language Processing

For each domain, include its meaning, one real-world application, the type of input data it uses, and one possible limitation.

Activity 4: Machine Learning Case Study

A school wants to develop a system that predicts whether plants in its garden need watering.

Answer the following:

1. What data should be collected?
2. What could be the input features and output?
3. How could the system learn from past observations?
4. How would you evaluate whether its predictions are useful?
5. What might happen if the training data is inaccurate?

Activity 5: AI Ethics Report

Write approximately 250–300 words on “Benefits, Risks and Responsible Use of Artificial Intelligence.”

Include privacy, bias, misinformation, human oversight, and the importance of verifying AI-generated content.

शरदावकाश गृहकार्य - हिन्दी

कक्षा नवमी

1. कोई दस उपसर्ग व उनसे तीन-तीन शब्द बनाकर लिखिए।
2. कोई दस प्रत्यय व उनसे तीन-तीन शब्द बनाकर लिखिए।
3. समास के सभी भेदों के छः-छः उदाहरण लिखिए समास विग्रह सहित ।
4. अर्थ के आधार पर वाक्य के सभी भेदों के दो-दो उदाहरण लिखिए।
5. अपने छोटे भाई को अनुशासन का महत्व बताते हुए पत्र लिखिए।
6. अपने क्षेत्र में पेयजल की समस्या के बारे में नगरपालिका अध्यक्ष को पत्र लिखिए।
7. अनुच्छेद लिखिए।

(i) कम्प्यूटर का महत्व

(ii) बढ़ती जनसंख्या - बढ़ती समस्याएँ

उपरोक्त सभी को याद भी करें व अपनी आगामी परीक्षा की तैयारी करें।

Science IX

1. Revise all the chapters done till date.

Complete your portfolio. Front pages of your portfolio will be shared separately. Along with that you have to prepare the mind maps of chapter 1 to 6.

Holiday Home Work of Social Science for Class 9th

- * What are the fundamental Rights and Duties in our Constitution.
- * Make portfolio of ch - 1 (Part-2)
- * Make Notes of Ch - 2 (Part-2)
- * Revise ch - 1 and 2 for exam.
- * Revise all the Maps Based on your Textbook.

English Holiday Homework

IX class

1. Revise all your classwork.
2. Prepare for PT-3.
3. Write a letter to the editor.
4. Write a story with a suitable title and moral.
5. Write diary entries for any two days of your holidays.

— *Happy Holidays and Happy Dussehra!* —