

KRISHNA INTERNATIONAL SCHOOL, ALIGARH
HOLIDAY HOMEWORK-2017-2018
(WINTER VACATION)
CLASS – IX

S. No.	SUBJECT	HOLIDAY HOMEWORK
1	HINDI	1. अपनी कक्षा कार्य पुस्तिका में किन्ही चार देशों के झन्डे बनाकर उनके विषय में लिखिए।
2	ENGLISH	1. Read the Novel ‘GULLIVER’S TRAVEL’ * Pick up 20 words from the book. Find their dictionary meanings and use them in sentences of your own. * Write a brief character of Laputian King and the hero of Novel.(Gulliver) 2. Select any two poems from the syllabus and highlight the presence of literary devices.(Do this work in a thin notebook.)
3	SCIENCE	Bio- Prepare the notes of Ch-7 and update your lab manual for term II. Chem- Prepare the notes of Ch-4 and update your lab manual for term II. Phy- Solve NCERT problems all the chapters in your note book.
4	SOCIAL SCIENCE	1. Geography :- Identify the various factors influencing the climate and explain the climate variation of our country and its impact on the life of the people in your class work copy. 2. Civics :- How was the election campaign in your constituency in the last Lok Sabha elections. In your class work copy prepare a list of what the candidate and parties said and did. 3. Economics :- In your class work copy give a description about the role of government to secure food insecurity (Learn and revise all the chapters completed in class.)

5. MATHS

Solve the following problems in your class work copy.

Q1. Prove that: $\frac{1}{1+\sqrt{2}} + \frac{1}{\sqrt{2}+\sqrt{3}} + \frac{1}{\sqrt{4}+\sqrt{3}} + \frac{1}{\sqrt{4}+\sqrt{5}} + \frac{1}{\sqrt{5}+\sqrt{6}} + \frac{1}{\sqrt{6}+\sqrt{7}} + \frac{1}{\sqrt{7}+\sqrt{8}} + \frac{1}{\sqrt{8}+\sqrt{9}} = 2$

Q2. If $x = 1 - \sqrt{2}$, find the value of $\left(x - \frac{1}{x}\right)^3$

Q3. If $x = \frac{\sqrt{3}+1}{2}$, find the value of $4x^3 + 2x^2 - 8x + 7$

Q4. If $x^4 + \frac{1}{x^4} = 47$, find the value of $x^3 + \frac{1}{x^3}$

Q5. Prove that sum of any two sides of a triangle is greater than its third side.

Q6. Prove that angle between internal bisector of one base angle and the external bisector of the other base angle of a triangle is equal to one half of the vertical angle.

Q7. If the medians of the triangle ABC intersect at G. Show that $ar(AGB) = ar(AGC) = ar(BGC) = \frac{1}{3}ar(ABC)$.

Q8. Represent $\sqrt{7}$ on number line.

Q9. Two parallel sides of the trapezium are 60cm and 77cm and other sides are 25cm and 26cm. Find the area of the trapezium.

Q10. Find the area of isosceles triangle whose equal sides measure 30cm each and the other side measure 40cm.

Q11. The taxi fare in a city is as follows: For the first kilometre, the fare is Rs.8 and for the subsequent distance it is Rs.5 per Km. Taking the distance covered as x Km and total fare as Rs. y, write a linear equation for this information and draw its graph.

Q12. State and prove converse of Mid Point Theorem.

Q13. A random survey of the number of children of various age groups playing in the park is as follows and draw a histogram to represent the data.

AGE (in years)	Number of children
1 - 2	5
2 - 3	3
3 - 5	6
5 - 7	12
7 - 10	9
10 - 15	10
15 - 17	4

Q14. Show that bisectors of angles of a parallelogram form a rectangle.

Q15. One card is drawn from a pack of 52 cards. Find the probability that the card drawn is:
(i) an ace (ii) red (iii) either red or king (iv) red and a king
(v) a black face card (vi) '10' of a black suit (vii) '2' of spades (viii) a club