



**SANT NIRANKARI PUBLIC SCHOOL**  
**AVTAR ENCLAVE**  
**HOLIDAYS HOMEWORK (2017-18)**  
**CLASS – X**

**ENGLISH**

1. Revise the syllabus for Periodic Test-1.
2. Read the Novel ‘The Story of My Life’ and write one incident each from first five chapters.
3. Complete the given stories on A-4 size sheets.
  - a. One day Mohan was going to his school by bicycle. On the way he saw-----
  - b. It was a rainy day. I was at home. It was pitch dark outside. Suddenly I heard someone knocking at my door-----
  - c. A good boy disobeys his parents—gets into bad company---- father gives him some good apples---- tells him to lay them aside for a few days---- places a rotten apple among them--- -- the rotten apple spoils the good ones----- the boys learns the lesson---- shuns the bad company.
4. Write the following letters:
  - a. Last week you were in Mumbai. You drove past an area where garbage was littered all along the road. A foul smell was in the air. Write a letter to the editor of a newspaper regarding this health hazard.
  - b. Write a letter of enquiry to NIIT Computer Ltd., Rohini, enquiring about a computer course you wish to do. You have read the advertisement in the newspaper.
  - c. You have recently purchased a washing machine but since a few days its spinner is not working properly. Write a letter of complaint to Sargam Electronics, Pitampura.
5. Try to converse with your family and friends in English.
6. Read English newspaper daily (at least two full articles of your choice).
7. Watch informative and interesting programmes on Discovery, National Geographic or History Channel (in English).

**SCIENCE**

1. Revise syllabus of Periodic Test- 1.
2. Write all the practicals of Term- 1 in Practical copy. (P&C)

## MATHEMATICS

1. Write formulae of Chapters of Class IX in a separate thin notebook.
2. Do the given worksheets on fullsize sheets.
3. Revise Chapter – Real Numbers
  - Polynomials
  - Triangles

## REAL NUMBERS

1. Write whether every positive integer can be of the form  $4q + 2$ , where  $q$  is an integer. Justify your answer.
2. “The product of two consecutive positive integers is divisible by 2”. Is this statement true or false? Give reasons.
3. “The product of three consecutive positive integers is divisible by 6”. Is this statement true or false”? Justify your answer.
4. Write whether the square of any positive integer can be of the form  $3m + 2$ , where  $m$  is a natural number. Justify your answer
5. A positive integer is of the form  $3q + 1$ ,  $q$  being a natural number. Can you write its square in any form other than  $3m + 1$ , i.e.,  $3m$  or  $3m + 2$  for some integer  $m$ ? Justify your answer.
6. The numbers 525 and 3000 are both divisible only by 3, 5, 15, 25 and 75. What is HCF (525, 3000)? Justify your answer.
7. Explain why  $3 \times 5 \times 7 + 7$  is a composite number.
8. Can two numbers have 18 as their HCF and 380 as their LCM? Give reasons.
9. Without actually performing the long division, find if  $\frac{987}{10500}$  will have terminating or non-terminating (repeating) decimal expansion. Give reasons for your answer.
10. A rational number in its decimal expansion is 327.7081. What can you say about the prime factors of  $q$ , when this number is expressed in the form  $\frac{p}{q}$ ? Give reasons.

CBSE TEST PAPER-01

MATHEMATICS (Class-10)

Chapter : Triangles

1. In  $\Delta PQR$ , given that  $S$  is a point on  $PQ$  such that  $ST \parallel QR$  and  $PS/SQ=3/5$  If  $PR = 5.6$  cm, then find  $PT$ .
2. In  $\Delta ABC$ ,  $AE$  is the external bisector of  $\angle A$ , meeting  $BC$  produced at  $E$ . If  $AB = 10$  cm,  $AC = 6$  cm and  $BC = 12$  cm, then find  $CE$ .
3.  $P$  and  $Q$  are points on sides  $AB$  and  $AC$  respectively, of  $\Delta ABC$ . If  $AP = 3$  cm,  $PB = 6$  cm,  $AQ = 5$  cm and  $QC = 10$  cm, show that  $BC = 3 PQ$ .
4. The image of a tree on the film of a camera is of length 35 mm, the distance from the lens to the film is 42 mm and the distance from the lens to the tree is 6 m. How tall is the portion of the tree being photographed?
5.  $D$  is the midpoint of the side  $BC$  of  $\Delta ABC$ . If  $P$  and  $Q$  are points on  $AB$  and on  $AC$  such that  $DP$  bisects  $\angle BDA$  and  $DQ$  bisects  $\angle ADC$ , then prove that  $PQ \parallel BC$ .
6. If a straight line is drawn parallel to one side of a triangle intersecting the other two sides, then it divides the two sides in the same ratio.
7. If a straight line divides any two sides of a triangle in the same ratio, then the line must be parallel to the third side.
8.  $ABCD$  is a quadrilateral with  $AB = AD$ . If  $AE$  and  $AF$  are internal bisectors of  $\angle BAC$  and  $\angle DAC$  respectively, then prove that  $EF \parallel BD$ . In a  $\Delta ABC$ ,  $D$  and  $E$  are points on  $AB$  and  $AC$  respectively such that  $AD/DB = AE/EC$  and  $\angle ADE = \angle DEA$ . Prove that  $\Delta ABC$  is isosceles.
9. In a  $\Delta ABC$ , points  $D$ ,  $E$  and  $F$  are taken on the sides  $AB$ ,  $BC$  and  $CA$  respectively such that  $DE \parallel AC$  and  $FE \parallel AB$ .
10. The internal bisector of  $\angle A$  of  $\Delta ABC$  meets  $BC$  at  $D$  and the external bisector of  $\angle A$  meets  $BC$  produced at  $E$ . Prove that  $BD/BE = CD/CE$
11. If a perpendicular is drawn from the vertex of a right angled triangle to its hypotenuse, then the triangles on each side of the perpendicular are similar to the whole triangle.
12. A man sees the top of a tower in a mirror which is at a distance of 87.6 m from the tower. The mirror is on the ground, facing upward. The man is 0.4 m away from the mirror, and the distance of his eye level from the ground is 1.5 m. How tall is the tower? (The foot of man, the mirror and the foot of the tower lie along a straight line).

1. Show that  $x^2 - 3$  is a factor of  $2x^4 + 3x^3 - 2x^2 - 9x - 12$
2. Divide:  $4x^3 + 2x^2 + 5x - 6$  by  $2x^2 + 3x + 1$  (2x-2, 9x-4)
3. Find other zeroes of the polynomial  $p(x) = 2x^4 + 7x^3 - 19x^2 - 14x + 30$  if two of its zeroes are  $\sqrt{2}$  and  $-\sqrt{2}$  (3/2, -5)
4. Find all the zeroes of the polynomial  $3x^4 + 6x^3 - 2x^2 - 10x - 5$ , if two of its zeroes are  $\sqrt{5}/3$  and  $-\sqrt{5}/3$  (-1, -1)
5. Find all the zeroes of  $2x^4 - 3x^3 - 3x^2 + 6x - 2$ , if it is known that two of its zeroes are  $\sqrt{2}$  and  $-\sqrt{2}$  (1, 1/2)
6. If the polynomial  $f(x) = x^4 - 6x^3 + 16x^2 - 25x + 10$ , is divided by another polynomial  $x^2 - 2x + k$  the remainder comes out to be  $x + a$ , find  $k$  and  $a$  (k = 5, a = -5)
7. Find the polynomial, whose zeroes are  $2 + \sqrt{3}$  and  $2 - \sqrt{3}$  ( $x^2 - 4x + 1$ )
8. Form a quadratic polynomial, one of whose zero is  $2 + \sqrt{5}$  and the sum of zeroes is 4
9. If  $\alpha$  and  $\beta$  are zeroes of the polynomial  $x^2 - 2x - 15$ , then form a quadratic polynomial whose zeroes are  $2\alpha$  and  $2\beta$
10. Write a quadratic polynomial, the sum and product of whose zeroes are 3 and -2 ( $x^2 - 3x - 2$ )
11. Find the zeroes of the polynomial and verify the relationship between the zeroes and the coefficient
  - a)  $4x^2 - 4x + 1$
  - b)  $x^2 - 3$
  - c)  $\sqrt{3}x^2 - 8x + 4\sqrt{3}$
12. If  $\alpha$  and  $\beta$  are the zeroes of the polynomial  $2y^2 + 7y + 5$ , write the value of  $\alpha + \beta + \alpha\beta$  (-1)
13. If one root of the polynomial  $5x^3 + 13x + k$  is reciprocal of the other, then find the value of  $k$ ?
14. What must be subtracted from  $2x^4 - 11x^3 + 29x^2 - 40x + 29$ , so that the resulting polynomial is exactly divisible by  $x^2 - 3x + 4$  (-2x + 5)
15. If the polynomial  $6x^4 + 8x^3 - 5x^2 + ax + b$  is exactly divisible by the polynomial  $2x^2 - 5$ , then find the values of  $a$  and  $b$  (-20, -25)
16. If the zeroes of the polynomial  $x^3 - 3x^2 + x + 1$  are  $a - b$ ,  $a$ ,  $a + b$ , find  $a$  and  $b$  (1,  $\pm\sqrt{2}$ )
17. On dividing  $x^3 - 3x^2 + x + 2$  by a polynomial  $g(x)$ , the quotient and remainder were  $x - 2$  and  $-2x + 4$ , respectively. Find  $g(x)$  ( $x^2 - x + 1$ )
18. If  $\alpha$  and  $\beta$  are the zeroes of the polynomial  $f(x) = 6x^2 + x - 2$ , find the value of  $\frac{1}{\alpha} + \frac{1}{\beta} - \alpha\beta$  (5/6)
19. If  $\alpha$  and  $\beta$  are the zeroes of the quadratic polynomial  $2x^2 + 3x - 5$ , find the value of  $\frac{1}{\alpha} + \frac{1}{\beta}$  (8/15)
20. If  $\alpha$  and  $\beta$  are the zeroes of the polynomial  $f(x) = x^2 - 5x + k$  such that  $\alpha - \beta = 1$ , find  $k$  (6)
21. If the product of zeroes of the polynomial  $ax^2 - 6x - 6$  is 4, find the value of  $a$  (-3/2)
22. If  $\alpha, \beta$  are the zeroes of quadratic polynomial  $2x^2 + 5x + k$ , find the value of  $k$  such that  $(\alpha + \beta)^2 - \alpha\beta = 24$ . (-71/2)

## SOCIAL STUDIES

1. Read, learn and revise all the chapters of syllabus of Periodic -1.

2. Do any one Project on the following topics. (5 marks)

- a. Disaster Management
- b. Popular Struggle and Movements
- c. Money and Credit

# Projects should be made from eco- friendly products without incurring too much expenditure. It should be handwritten and comprise of not more than 15 fullscape pages.

3. Practice following maps and paste them in your map notebook. ( 5 marks)

4.

### HISTORY

Chapter 3 (location, labeling/ identification)

- a. Indian National Congress sessions:
  - i. Calcutta (Sept. 1920)
  - ii. Nagpur (Dec. 1920)
  - iii. Madras (1927)
  - iv. Lahore (1929)
- b. Important Centres of Indian National Movement (Non Co-operation, Civil Disobedience Movement)
  - i. Champaran (Bihar) Movement of Indigo planters
  - ii. Kheda (Gujarat) Peasant Satyagraha
  - iii. Ahmedabad (Gujarat) Cotton mill workers Satyagraha
  - iv. Chauri- Chaura (U.P.)
  - v. Dandi (Gujarat) Civil Disobedience Movement

### GEOGRAPHY

#### **Chapter 1**

- a. Identification of major soil types

#### **Chapter 2**

Locating & labeling of Dams:

Salal, Bhakra Nangal, Tehri, Rana Pratap Sagar, Sardar Sarovar, Hirakud, Nagarjuna Sagar, Tungbhadra

## FOUNDATION OF IT

1. Learn Periodic syllabus chapter-1 and 2.
2. Make a website of your school and you can take example from [www.snps.edu.in](http://www.snps.edu.in). Take printout on A4 Sheet and keep it in folder.

## HINDI

ग्रीष्मकालीन अवकाश गृहकार्य  
विषय - हिन्दी  
कक्षा - दसवीं

1. प्रथम आवधिक परीक्षा का सम्पूर्ण पाठ्यक्रम याद करें।
2. सभी पाठों के अतिरिक्त प्रश्न करें।  
उ.क) आप घड़ियों के निर्माता हैं। अपनी घड़ियों की बिक्री बढ़ाने के लिए एक आकर्षक विज्ञापन तैयार कीजिए।  
(ख) अपने विद्यालय में नए सत्र हेतु सभी कक्षाओं में प्रवेश हेतु लगभग 20-30 शब्दों का विज्ञापन तैयार कीजिए।
3. (क) आपके मौहल्ले में रक्तदान शिविर लगा है। रक्तदान से संबंधित रोहन और मोहन के बीच हुए संवाद को 50 शब्दों में लिखिए।

(ख) रेलवे स्टेशन के पूछताछ काउंटर पर यात्री व कर्मचारी के बीच संवाद की 50 शब्दों में लिखिए।

5. किसी प्रतिष्ठित समाचार-पत्र के संपादक को पत्र लिखकर नगर में डेगू फैलने के कारणों की चर्चा करते हुए इससे निपटने की अपर्याप्त तैयारियों का उल्लेख कीजिए।

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