

**SAINIK SCHOOL IMPHAL**  
**SUMMER VACATION HOMEWORK: 2021-22**  
**CLASS IX**

**HOLIDAY/VACATION HOME WORK :-**

i) शब्द और पद में क्या अंतर है? उदाहरण देकर समझाइए।

ii) सृजनात्मक लेखन (Creative writing) -

सभी विद्यार्थियों को सूचित किया जाता है कि - भिन्न विधाओं के भिन्न विषयों पर कविता, कहानी, निबंध, डायरी, संस्मरण आदि में से एक-दो लेख(Article) लिखकर इस ई-मेल पर भेजें- [guna.ssimphal@gmail.com](mailto:guna.ssimphal@gmail.com), विद्यार्थियों द्वारा लेख भेजना अनिवार्य है, जो स्वरचित(Own) और सुन्दर अक्षरों में लिखी हुई होनी चाहिए। इनमें से चयनित आलेखों को प्रतिवर्ष प्रकाशित की जानेवाली वार्षिक स्कूल पत्रिका 'Orchid' में प्रकाशित की जाएगी। ध्यान रहें कि- आपके द्वारा भेजी जानेवाली लेख को महत्व देने हेतु २०२१-२०२२ के शैक्षणिक सत्र के आंतरिक मूल्यांकन(Internal assessment) के अंतर्गत अंक(Mark) दिया जा सकता है।

ii) 'दूख का अधिकार' पाठ का मुख्य संदेश अपने शब्दों में संक्षेप में लिखिए।

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सैनिक स्कूल इम्फाल(मणिपुर)

Sub: Biology

class-X

1. Project: Find any five common human diseases related to the following tissues.  
(Epithelial, connective, muscular, nervous)

- Choose only one tissue

Format of the project.

- a) Name of the disease
  - b) Symptoms
  - c) Mode of transmission
  - d) Treatment
2. Draw the following diagrams.
    - a) Animal cell
    - b) Plant cell
    - c) Prokaryotic cell

Project

(a) Water to fuel to water

Examine the possibilities for water as part of the fuel cycle for the future.

(b) Chemistry of ice-cream making

Test how the addition of salt and other substances to water affects the freezing point of the water-based solution. Is rock salt and ice the best combination for freezing ice cream?

(c) Does your cell phone leak?

Measure cell phone radiation from several distances when making a call and when texting.

(d) What is the relation between?

'IDEA', 'CONCEPT', 'THEORY', 'LAW'.

Summer vacation Homework

Class: IX-C

Subject: Mathematics

Textual exercise Pg-14

5. Construct a table on the distribution of land among the 450 families of Palampur.

6. In your region talk to two farm labourers. What wages do they get? Are they paid in cash? Do they get work regularly? Are they in debt? Write a report.

13. What are the non farm production activities in your region. Make a list and explain. Textual exercise pg-27.

Suggest some measures in the education system to mitigate the problem of educated unemployed?

Subject: English

Class IX-A

Vacation Homework

1. Write an article of about 200-250 words on “ READERS ARE LEADERS”. (Classwork copy)
2. A) Revise tense and all its forms. Write down all the forms, its sentence structure with an example each. (Classwork copy)  
b) complete exercise on tense pg-153 (senior English grammar and composition)  
c) Test on tense will be conducted after school re-opens.
3. Learn all the lessons taught till 8<sup>th</sup> May. The word meanings, question and answers and exercise.
4. Use your creativity and imagination to weave a story of about 200-250 words on the theme “PREVENTION IS BETTER THAN CURE” (Classwork copy)
5. Read the books:
  - a) “Harry potter and the philosopher’s stone” JK Rowling. After a good read, write a page on why the book is a best seller. (Classwork copy)
  - b) “You can win” by Shiv Khera. Write down 5 principles you liked most along with the reason “WHY” (Classwork copy).

**HOLIDAY HOMEWORK:**

1. Write an article, poem, riddles facts for the school magazine. The article should be about 100-150 words. Riddles and poems should be written in 10 points. Poems should be written between 8-16 lines.

The Probable topics for articles.

- i) Indigenous food at Manipur
  - ii) Phumdis of Loktak Lake.
  - iii) Karang Island in Manipur.
  - iv) Ways to handle mental health during the Pandemic
  - v) Personal experience (completions, excursions)
  - vi) Enriching oneself during the lockdown
  - vii) Ema Market
  - viii) Nupi Lan
  - ix) Global Issues (Black lives matter, Protest in Myanmar)
  - x) Mental health (its importance and value)
2. Grammar (Senior English Grammar and Composition)  
Subject – Verb Agreement (topic)  
Exercise-1 (page-125)

Fill up each Blank with a suitable verb.

1. Two and three \_\_\_\_\_ five, not eleven.
  2. The behavior of these children \_\_\_\_\_ praise worthy.
  3. A hare and a habit \_\_\_\_\_ different animals.
  4. There \_\_\_\_\_ a number of flaws in this plan.
  5. Time and tide \_\_\_\_\_ for no body in the world.
  6. Slow and steady \_\_\_\_\_ the race at length.
  7. I as well as you \_\_\_\_\_ to be punished.
  8. Milk and Eggs \_\_\_\_\_ a perfect food.
  9. One hundred Meters \_\_\_\_\_ a short distance
  10. The general, along with his soldiers, \_\_\_\_\_ imprisoned.
  11. I, no less than you, \_\_\_\_\_ responsible for it.
  12. I, Who \_\_\_\_\_ your friend, wish you success.
  13. Each of the dacoit's \_\_\_\_\_ beaten with shoes.
  14. No news \_\_\_\_\_ ever good news.
  15. The horse and carriage \_\_\_\_\_ at the door.
3. Write a book review on the novel
- i) "The Coolie" by Mulk Raj Anand
  - ii) Kabuliwallah by Rabindranath Tagore.
4. Explain with reference to the poem

The Read Not Taken

- i) Have you ever had to make a difficult choice (or do you think you will have difficult choices to make)? How will you make the choice (for what reasons?)
  - ii) After you have made a choice do you always think about what might have been, or do you accept the reality?
5. Write the structure and uses of all tense.
6. Do you think the title “ the lost child” is an apt title for the story? COMMENT



Subject: English

1. Write an essay on the topic "EDUCATION DURING PANDEMIC OF COVID 19. Your essay should be on the basis of the following headings. (200-250 words)

Introduction

Merits

Demerits

Difference between online and offline classes

Conclusion

Subject: Geography

1. Prepare a project report on "FLOOD" in A4 size paper written not less than five pages but not more than ten page.

NOTE:

- While preparing the report, follow the following instructions.
- Write only one side of the page only
- Discuss origin, causes, preventive measures etc of flood.
- Attach available photos and pictures.
- In front cover page include name of school, your class, section session name of project submitted to, submitted by etc.

# VACATION HOME WORK:

## 1. Number Systems

Question 1.

Every rational number is

- (a) a natural number
- (b) an integer
- (c) a real number
- (d) a whole number

Question 2.

Between two rational numbers

- (a) there is no rational number
- (b) there is exactly one rational number
- (c) there are infinitely many rational numbers
- (d) there are only rational numbers and no irrational numbers

Question 3.

Decimal representation of a rational number cannot be

- (a) terminating
- (b) non-terminating
- (c) non-terminating repeating
- (d) non-terminating non-repeating

Question 4.

The product of any two irrational numbers is

- (a) always an irrational number
- (b) always a rational number
- (c) always an integer
- (d) sometimes rational, sometimes irrational

Question 5.

The decimal expansion of the number  $\sqrt{2}$  is

- (a) a finite decimal
- (b) 1.41421
- (c) non-terminating recurring
- (d) non-terminating non-recurring

Question 6.

Which of the following is irrational?

- (a)  $\sqrt{\frac{4}{9}}$       (b)  $\frac{\sqrt{12}}{\sqrt{3}}$       (c)  $\sqrt{7}$       (d)  $\sqrt{81}$

Question 7.

Which of the following is irrational?

- (a) 0.14      (b)  $0.14\overline{16}$       (c)  $0.\overline{1416}$       (d) 0.4014001400014

Question 8.

A rational number between  $\sqrt{2}$  and  $\sqrt{3}$  is

A rational number between  $\sqrt{2}$  and  $\sqrt{3}$  is

- (a)  $\frac{\sqrt{2} + \sqrt{3}}{2}$       (b)  $\frac{\sqrt{2} \cdot \sqrt{3}}{2}$       (c) 1.5      (d) 1.8

Question 9.

The value of 1.999... in the form of  $p/q$ , where  $p$  and  $q$  are integers and  $q \neq 0$ , is

- (a) 1910  
(b) 19991000  
(c) 2  
(d) 19

Question 10.

$2\sqrt{3} + \sqrt{3}$  is equal to

- (a)  $2\sqrt{6}$   
(b) 6  
(c)  $3\sqrt{3}$   
(d)  $4\sqrt{6}$

Question 11.

$\sqrt{10} \times \sqrt{15}$  is equal to

- (a)  $6\sqrt{5}$   
(b)  $5\sqrt{6}$   
(c)  $\sqrt{25}$   
(d)  $10\sqrt{5}$

Question 12.

The number obtained on rationalising the denominator of  $17\sqrt{-2}$  is

- (A)  $\frac{\sqrt{7} + 2}{3}$       (B)  $\frac{\sqrt{7} - 2}{3}$   
(C)  $\frac{\sqrt{7} + 2}{5}$       (D)  $\frac{\sqrt{7} + 2}{45}$

Question 13.

$\frac{1}{\sqrt{9} - \sqrt{8}}$  is equal to

- (A)  $\frac{1}{2}(3 - 2\sqrt{2})$       (B)  $\frac{1}{3 + 2\sqrt{2}}$   
(C)  $3 - 2\sqrt{2}$       (D)  $3 + 2\sqrt{2}$

Question 14.

After rationalising the denominator of  $\frac{1}{3\sqrt{3} - 2\sqrt{2}}$ , we get the denominator as

$3\sqrt{3} - 2\sqrt{2}$ , we get the denominator as

- (A) 13      (B) 19  
(C) 5      (D) 35

Question 15.

The value of  $\frac{\sqrt{32} + \sqrt{48}}{\sqrt{8} + \sqrt{12}}$  is equal to

A.2

B.3 C.4 . D.5

Question 16.

If  $\sqrt{2} = 1.4142$ , then  $\sqrt{\frac{\sqrt{2}-1}{\sqrt{2}+1}}$  is equal to

(A) 2.4142

(B) 5.8282

(C) 0.4142

(D) 0.1718

Question 17.

$\sqrt[4]{3\sqrt{2^2}}$  equals ? . Evaluate.

Question 18.

The product  $\sqrt[3]{2} \cdot \sqrt[4]{2} \cdot \sqrt[12]{32}$  equals

(A)  $\sqrt{2}$

(B) 2

(C)  $\sqrt[12]{2}$

(D)  $\sqrt[12]{32}$

Question 19.

Value of  $\sqrt[4]{(81)^{-2}}$  is

(A)  $\frac{1}{9}$

(B)  $\frac{1}{3}$

(C) 9

(D)  $\frac{1}{81}$

Question 20.

Value of  $(256)^{0.16} \times (256)^{0.09}$  is

A. 4. B.5. C.6. D.7

Question 21.

Which of the following is equal to x?

(A)  $x^{\frac{12}{7}} - x^{\frac{5}{7}}$

(B)  $\sqrt[12]{(x^4)^{\frac{1}{3}}}$

(C)  $(\sqrt{x^3})^{\frac{2}{3}}$

(D)  $x^{\frac{12}{7}} \times x^{\frac{7}{12}}$

Short Answer Type Questions

Question 1.

Let  $x$  and  $y$  be rational and irrational numbers, respectively. Is  $x+y$  necessarily an irrational number? Give an example in support of your answer.

Question 2.

Let  $x$  be rational and  $y$  be irrational. Is  $xy$  necessarily irrational? Justify your answer by an example.

Question 3.

State whether the following statements are true or false? Justify your answer.

- (i)  $2\sqrt{3}$  is a rational number.
- (ii) There are infinitely many integers between any two integers.
- (iii) Number of rational numbers between 15 and 18 is finite.
- (iv) There are numbers which cannot be written in the form  $p/q$ ,  $q \neq 0$ ,  $p, q$  both are integers.
- (v) The square of an irrational number is always rational.

(vi)  $\frac{\sqrt{12}}{\sqrt{3}}$  is not a rational number as  $\sqrt{12}$  and  $\sqrt{3}$  are not integers.

(vii)  $\frac{\sqrt{15}}{\sqrt{3}}$  is written in the form  $\frac{p}{q}$ ,  $q \neq 0$  and so it is a rational number.

Question 4.

Classify the following numbers as rational or irrational with justification

(i)  $\sqrt{196}$

(ii)  $3\sqrt{18}$

(iii)  $\sqrt{\frac{9}{27}}$

(iv)  $\frac{\sqrt{28}}{\sqrt{343}}$

(v)  $-\sqrt{0.4}$

(vi)  $\frac{\sqrt{12}}{\sqrt{75}}$

(vii) 0.5918

(viii)  $(1+\sqrt{5}) - (4 + \sqrt{5})$

(ix) 10.124124...

(x) 1.010010001...

## Short Answer Type Questions

Question 1.

Find which of the variables  $x$ ,  $y$ ,  $z$  and  $u$  represent rational numbers and which irrational numbers.

- (i)  $x^2 = 5$
- (ii)  $y^2 = 9$
- (iii)  $z^2 = 0.04$
- (iv)  $u^2 = 17/4$

Question 2.

Find three rational numbers between

- (i) -1 and -2
- (ii) 0.1 and 0.11
- (iii)  $5/7$  and  $6/7$
- (iv)  $1/4$  and  $1/5$

Question 3.

Insert a rational number and an irrational number between the following

- (i) 2 and 3
- (ii) 0 and 0.1
- (iii)  $1/3$  and  $1/2$
- (iv)  $-2/5$  and  $-1/2$
- (v) 0.15 and 0.16
- (vi)  $\sqrt{2}$  and  $\sqrt{3}$
- (vii) 2.357 and 3.121
- (viii) .0001 and .001
- (ix) 3.623623 and 0.484848
- (x) 3.375289 and 6.375738

Question 4.

Represent the following numbers on the number line 7, 7.2,  $-3/2$  and  $-12/5$ .

Question 5.

Locate  $\sqrt{5}$ ,  $\sqrt{10}$  and  $\sqrt{17}$  on the number line.

Question 6.

Represent geometrically the following numbers on the number line:

- (i)  $\sqrt{4.5}$
- (ii)  $\sqrt{5.6}$
- (iii)  $\sqrt{8.1}$
- (iv)  $\sqrt{2.3}$

7. Express the following in the form  $p/q$ , where  $p$  and  $q$  are integers and  $q \neq 0$

- (i) 0.2
- (ii) 0.888...

- (iii) 5.2
- (iv) 0.001
- (v) 0.2555...
- (vi) 0.134
- (vii) .00323232...
- (viii) .404040...

Question 8.

Show that  $0.142857142857\dots = 1/7$

Question 9.

Simplify the following

- (i)  $\sqrt{45} - 3\sqrt{20} + 4\sqrt{5}$
- (ii)  $\frac{\sqrt{24}}{8} + \frac{\sqrt{54}}{9}$
- (iii)  $\sqrt[4]{12} \times \sqrt[3]{6}$
- (iv)  $4\sqrt{28} + 3\sqrt{7} + \sqrt[3]{7}$
- (v)  $3\sqrt{3} + 2\sqrt{27} + \frac{7}{\sqrt{3}}$
- (vi)  $(\sqrt{3} - \sqrt{2})^2$
- (vii)  $\sqrt[4]{81} - 8\sqrt[3]{216} + 15\sqrt[5]{32} + \sqrt{225}$
- (viii)  $\frac{3}{\sqrt{8}} + \frac{1}{\sqrt{2}}$
- (ix)  $\frac{2\sqrt{3}}{3} - \frac{\sqrt{3}}{6}$

Question 10.

Rationalise the denominator of the following

- (i)  $\frac{2}{3\sqrt{3}}$
- (ii)  $\frac{\sqrt{40}}{\sqrt{3}}$
- (iii)  $\frac{3 + \sqrt{2}}{4\sqrt{2}}$
- (iv)  $\frac{16}{\sqrt{41} - 5}$
- (v)  $\frac{2 + \sqrt{3}}{2 - \sqrt{3}}$
- (vi)  $\frac{\sqrt{6}}{\sqrt{2} + \sqrt{3}}$
- (vii)  $\frac{\sqrt{3} + \sqrt{2}}{\sqrt{3} - \sqrt{2}}$
- (viii)  $\frac{3\sqrt{5} + \sqrt{3}}{\sqrt{5} - \sqrt{3}}$
- (ix)  $\frac{4\sqrt{3} + 5\sqrt{2}}{\sqrt{48} + \sqrt{18}}$

Write up on the life and contributions of three great Indian Mathematician.





## Summer Vacation Homework

Class IXC

Subject: Math

1. To solve exercise of NCERT chapter 1&2.
2. Collection of photos of "EUCLID", "THALE" and "PYTHAGORAS" and write a brief report about their contribution in the field of Mathematics.

## SUMMER VACATION HOMEWORK:

Prepare the following assignment in A4 Papers with neat and clean diagrams.  
Moreover, this assignment will be used for awarding internal assessment marks.

- Derive the following equations of motion graphically by using V-T graph of Uniformly accelerated motion.

1.  $v = u + at$  ----- Velocity – time equation

2.  $s = ut + \frac{1}{2} at^2$  -----Position – time equation

3  $2as = v^2 - u^2$  ----- Position – velocity equation

CLASS IXB

Subject: Social Science

Summer Vacation Homework

1. Why are the wages for farm labourers in Palampur less than minimum wages? Collect a data on the variation of the daily wages in different states of India.
2. How did the speed of electricity help farmers in Palampur. Prepare a report on the issue of the lack of power supply in your town/village.

How do the medium and large obtain capital for farming? Give examples

SUMMER VACATION  
HOME WORK.

FOR  
Class : IX(A)  
Subject : Manipuri

Q.1 ਸੀਅਤਕ ਤੀਰ ਤੇਤਰ ਨੀਕੰਘ ਲਮੀਯੇ ਤੇਮਤੀ ਤਤੁ ॥ 10.

Q.2 ਸੇਦ੍ਰਾਭੇਲਾਯੇ ਗੁਦੇਲੀਯੇ ਸਕਸਕ ਮਸਏ ਤਤੁ ॥ 10.

Q.3 ਲਗੇਸਠ ਲਕੁ ਫਰਲਾਠ ਲੋਮੋ ਤਤੁ ॥ 10.

ਕ) ਤੈਦੀਯਾਯੀ ਸਕਸਕ ਘਮਤਾਤੁਤਕ

ਮ) ਗੁਦੇਲੀਯੇ ਗੇਦੇਲੇਮ

ਲ) ਮੇਲੇ-ਫਰਲੇ

Q.4 ਟੀਏ ਗੇਸਠ ਤੀਕਸ ਲਕੁ ਤੇਕੰਘ/ਨੀਕੰਘ 10.

ਲਕੁ ਤਕਯਾਤੁ ॥

M. Jiten Singh

SUMMER VACATION  
HOME WORK - 21-22.

CLASS - 9. (B-C)  
MANIPURI.

2/ জৱেঅংগা অৱ সৱ (Selected Essays).

2/ ম'অংগা সৱ :- (Poem writing).

(i) অৱম'অংগা অ'সৱ

(ii) অৱম'অংগা অ'সৱ অ'সৱ

(iii) অৱম'অংগা অ'সৱ অ'সৱ অ'সৱ

(iv) অৱম'অংগা অ'সৱ

3/ অৱম'অংগা (Assignment)

(i) অৱম'অংগা অ'সৱ অ'সৱ অ'সৱ

(ii) অৱম'অংগা অ'সৱ অ'সৱ অ'সৱ অ'সৱ

4) জৱেঅংগা অৱ সৱ = (Story writing).

5) এ'অংগা অ'সৱ = (Collection of Jokes).

(i) এ'অংগা অ'সৱ অ'সৱ

(ii) অৱম'অংগা অ'সৱ

6)

= (Phrase and Idioms)

Sub Teacher.

Jh. Meneka. (Jh)

## Vacation task class IX B maths

Solve the following questions.

Q.1. Find the value of  $x$ , if  $\left(\frac{6}{5}\right)^x \left(\frac{5}{6}\right)^{24} = \frac{125}{216}$

Q.2. If  $a = \frac{1}{7-4\sqrt{3}}$  and  $b = \frac{1}{7+4\sqrt{3}}$ , then find the value of (i)  $a^2+b^2$  (ii)  $a^3+b^3$

Q.3. If  $a = 3+2\sqrt{2}$ , then find the value of (i)  $a^2 + \frac{1}{a^2}$  (ii)  $a^3 + \frac{1}{a^3}$

Q.4. If  $x = \frac{\sqrt{a+2b} - \sqrt{a-2b}}{\sqrt{a+2b} + \sqrt{a-2b}}$ , Prove that  $bx^2 - ax + b = 0$

Q.5. Evaluate:  $\frac{1}{\sqrt{2}+1} + \frac{1}{\sqrt{3}+\sqrt{2}} + \frac{1}{\sqrt{4}+\sqrt{3}} + \dots + \frac{1}{\sqrt{9}+\sqrt{8}}$

Q.6. Factorise:  $\frac{\sigma^3}{8} - \frac{s^3}{343} - \frac{t^3}{216} - \frac{1}{28}$

Q.7. Factorise:  $(5\sigma + \frac{2}{3})^2 - (2\sigma - \frac{1}{3})^2$

Q.8. If  $\sqrt{m} + \sqrt{n} - \sqrt{p} = 0$ , then find the value of  $(m+n-p)^2$

Q.9. Factorise:  $x^8 - y^8$

Q.10. If  $x + \frac{1}{x} = 9$ , find the value of  $x^4 + \frac{1}{x^4}$

Q.11. Write three applications of polynomials in day to day life with thorough explanation.

M. Rabi Singh  
T.G.T. Maths