

NORTH-EX PUBLIC SCHOOL (Session 2020-21)
SUMMER HOLIDAYS HOMEWORK
Class - IX
Subject – MATHS

1. Solve the following sums:
 - (a) Find the value of $34^2 - 21^2$.
 - (b) If $a = 5 - 2\sqrt{5}$, then find a^2 .
 - (c) Find five rational numbers between $\frac{4}{5}$ and $\frac{7}{5}$.
 - (d) If $x = 0.28$, then find x^3 .
 - (e) Add $5\sqrt{2} + 4\sqrt{3}$ and $7\sqrt{2} - 6\sqrt{3}$
2. Represent the rational numbers on number line.
 - (a) $\frac{3}{4}$ (b) $-\frac{8}{5}$ (c) $2\frac{1}{2}$ (d) $-\frac{7}{8}$
3. Rationalise the denominators:
 - (a) $\frac{5}{2+\sqrt{3}}$ (b) $\frac{8}{\sqrt{5}-\sqrt{6}}$ (c) $\frac{3}{\sqrt{5}}$
4. If $x + y = 12$ and $xy = 32$, Find the value of $x^2 + y^2$. (Hint : use identity $(x+y)^2 = x^2 + y^2 + 2xy$ to substitute values)
5. If $3x + 2y = 12$ and $xy = 6$, find the value of $9x^2 + 4y^2$. (Hint : use identity $(x+y)^2 = x^2 + y^2 + 2xy$ to substitute values)
6. Write the following cubes in the expanded form:
 - (i) $(3a + 4b)^3$
 - (ii) $(5p - 3q)^3$
7. Represent the Number System with the help of a Flow Chart and write examples also.
8. Learn and write algebraic identities.
9. Make a list of law of exponents.
10. Factorise :
 - (a) $x^2 - 4x - 21$ (b) $x^2 - 19x + 78$ (c) $x^2 + 9x + 18$

Note: Do practice of all the sums in the given worksheets .

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Class – IX

Subject – science

Holiday homework

Physics

1. Derive a mathematical expression for Newton's second law of motion.
2. Describe in brief an activity to illustrate the property of inertia of rest.
3. Derive the following equations, graphically a) $S = ut + \frac{1}{2}at^2$, b) $v^2 - u^2 = 2aS$.
4. A bus starting from rest moves with a uniform acceleration of 0.1 ms^{-2} for two minutes.
Find (a) the speed acquired, (b) the distance travelled.
5. Prepare a working model on Newton's laws of motion.

Biology

1. What is active transport? Differentiate between active and passive transport.
2. How is Prokaryotic cell different from a eukaryotic cell?
3. Describe the structure and function of different types of epithelial tissues. Draw the diagram for each type of epithelial tissue.
4. Make a table to show the differences between striated, unstriated and cardiac muscles on the basis of their structure and location in the body.
5. Prepare a model and a chart on the allotted topics. Model to be prepared should have a strong base and the chart related to the model should be made on white pastel sheet.
 - (a) Plant cell (Roll no. 1-7)
 - (b) Animal cell (Roll no. 8-15)
 - (c) chloroplast (Roll no. 16-22)
 - (d) Nitrogen cycle (Roll no. 23-29)
 - (e) Oxygen cycle (Roll no. 30- 40)

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School Block, Jain Nagar, Sector-38, Rohini, Delhi – 81
CLASS –IX
SOCIAL SCIENCE
HOLIDAY HOMEWORK

Read NCERT chapter thoroughly for better understanding

1. What is aim of production? Give its requirement?
2. Differentiate between modern and traditional farming method?
3. Which type of farmers has surplus farm product? How these farmers use their surplus capital?
4. Discuss the size and location of India?
5. The central location of India at the head of the Indian Ocean is considered of great significance. Why?
6. Name the canal which reduces the time and distance between Europe and India. When it was opened?

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Holiday Homework
Class IX English

1. Watch English news daily in order to equip yourself with the information and facts to be used in as content in writing skills.
2. Read the chapters 'The Sound Of Music', 'The Little Girl' and write the character sketches of the following.
 - a. Bismillah Khan
 - b. Evelyn Glennie
 - c. Margie
3. You are Vaibhav, Vaibhavi. You are asked to write an article for the school magazine on 'climate change'. Use your ideas and hints given below.

Human activities - burning fossil fuels - releases carbon dioxide - rise in earth's temperature - causes sea level changes - adversely affects precipitation - seasons - flora and fauna
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4. Given below is a list of literary devices. Select three poem from the syllabus and highlight the presence of listed literary devices while explaining the literary devices.
 - Simile
 - Metaphor
 - Personification
 - Irony
 - Repetition
 - Hyperbole
 - Allusion
 - Apostrophe
 - Paradox
 - Onomatopoeia
5. Maintain a dictionary by reading an English newspaper and watch your favorite show. Take note of the new Words(atleast 5) that you see and hear and copy those words down in your notebook. Refer to the internet and learn what those words means.

NORTH-EX PUBLIC SCHOOL (Session 2020-21)

CLASS- IX

SUBJECT- HINDI

HOLIDAYS HOMEWORK

प्रश्न 1. कवि रैदास के पदों की व्याख्या अपने शब्दों में कीजिए।

प्रश्न 2. रहीम के दोहों से हमें कौन-कौन-सी सीख मिलती है? स्पष्ट कीजिए।

प्रश्न 3. निम्नलिखित विषयों पर लगभग 100 शब्दों में अनुच्छेद लिखिए -

(क) जीवन में व्यायाम का महत्व (ख) कंप्यूटर : आज की आवश्यकता

प्रश्न 4. निम्नलिखित विषयों पर लगभग 100 शब्दों में संवाद लिखिए -

(क) बूढ़ों के महत्व पर बात करते हुए दो मित्रों के बीच संवाद।

(ख) कोरोना वायरस के प्रभाव पर दो व्यक्तियों के बीच संवाद।

प्रश्न 5. (क) शिक्षा का महत्व बताते हुए मित्र को पत्र लिखिए।

(ख) आपकी छोटी बहन ने परीक्षा में प्रथम स्थान प्राप्त किया है। बधाई देने
हुए पत्र लिखिए।

प्रश्न 6. ऐसे दस शब्द लिखिए जिनमें उपसर्ग व प्रत्यय दोनों का प्रयोग हो।

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CLASS - IX

Subject: Computer Applications

Holiday Homework

NOTE: Revise all worksheets shared over website of Computer Application & answer the following questions in your school notebook.

Q1) Multiple Choice questions:

- i) Computer connected with LAN
a) Work Fast b) Go Online c) Can E-mail d) Can share information or peripheral devices

- ii) Which of the following uses cables to connect to or more computers?
a) Transmission b) Unguided c) guided d) Radio waves

- iii) Microphone is a/an..... unit.
a) Input b) Output c) Memory d) Processing

- iv) Which of the following is not a type of cybercrime?
a) Data theft b) Forgery c) Damage to data c) Installing antivirus for protection

- v) Unsolicited commercial email is known as
a) Spam b) Malware c) Virus d) Spyware

Q2) Fill in the blanks:

- i).....is a computer which provides sharing the resources of other computers connected in a network

- ii).....is the formation of network.

- iii) The language used to develop web pages is called.....

- iv) The most powerful computers are known as

- v) World computer literacy day is celebrated on.....

Q3) True/ False

- i) MAN's are the computer networks confined to a localized area such as an office.

- ii) The most powerful computer in a typical network is network server.

- iii) Operating system is an application software.

- iv) Moving from one website to another is called downloading.

- v) The full form of ICT is internet common technology.

Q4) The following paragraph describes the term computer network.

A computer network is a group of (i) That are (ii)to each other for the purpose of (iii).....A computer (iv)allows computers to communicate with many other computers and to (v) resources and information.

Fill in the blanks with words from the listed below:

Connected, computer, sending, communication, network, share

Q5) Mr. Ravi and Mr. Manoj want to send a song from each other. Both having a mobile phone. Both want to send a song through mobile phones. What network technology is needed to share a song through mobile phone? Describe it.

Q6) Below is the list of various types of application software's:

- A. Database
- B. Desktop publishing
- C. Drawing
- D. Word processing
- E. Spreadsheet

Which one be the most suitable to use for each of the following tasks?

- Rotation of shapes
- Typing in text for a novel
- Using frames to position text and graphics on a page
- Replication of cells
- Carrying out a compilation search on two or more criteria.

Q7. What is e-commerce? Write a short note on it & name some websites related to it.

Q8. What do you understand by search engine? List all popular search engines in the market.

Q9. How are computers used in education?

Q10. Explain the types of printer.

Q11. What do you understand by video conferencing? How is it useful during the current pandemic COVID 19?

Q12. What is the difference between third and fourth generation computer?

Q13. Write a short note on technology that is used in fifth generation computer.

Q14. What is the main difference between RAM and ROM?

Q15. What do you understand by web browser and explain it.