

HOLIDAY HOMEWORK FOR CLASS IX

ENGLISH

1. Solve Unit 1,2 and 3 of the workbook prescribed for class IX.

2. Make a scrapbook consisting of 20 pages

1) Page 1-10

Each page to have a clipping from a English newspaper pasted.

a) find 5 new words from each clipping and write their meaning from the dictionary along with antonym for each.

b) find 5 phrasal verbs from each clipping.

2) Page 11-15

a) Paste any 5 advertisements in English and create 5 advertisements on your own on any topic.

3) Page 16 -20

a) paste/draw 5 different scenes

b) write a story on each scene in 150 words

OR

Describe the scene using at least 15 adjectives. Underline all the adjectives used.

ग्रीष्मावकाश गृहकार्य

कक्षा - नौवीं

1. किसी पशु या पक्षी के विषय में निम्नलिखित बिन्दुओं के आधार पर विस्तृत जानकारी एकत्र करके लिखें ।

- i. नाम, जाति/प्रजाति, आवास
- ii. आहार-विहार
- iii. जीवनकाल, स्वभाव
- iv. संरक्षण के लिए सरकारी योजनाएँ

2. एक सुंदर, रचनात्मकता से पूर्ण फाइल कवर बनाएँ और ऊपर कही गई जानकारियाँ उसमें कलात्मक ढंग से लिखें।

MATHEMATICS

NUMBER SYSTEM AND POLYNOMIALS

1. If $3x + 2y = 12$ and $xy = 6$, find the value of $9x^2 + 4y^2$.
2. Write the following cubes in the expanded form:
 - (i) $(3a + 4b)^3$
 - (ii) $(5p - 3q)^3$
3. If $x^2 + 1/x^2 = 27$, find the values of each of the following:
 - (i) $x + \frac{1}{x}$
 - (ii) $x - \frac{1}{x}$
4. If $x - \frac{1}{x} = 4$, then evaluate $x^2 + 1/x^2$
5. If $a + b + c = 15$ and $a^2 + b^2 + c^2 = 83$, find the value of $a^3 + b^3 + c^3 - 3abc$.
6. Factorize:
 - (i) $6ab - b^2 + 12ac - 2bc$
 - (ii) $9(2a - b)^2 - 4(2a - b) - 13$
7. If $x^3 + ax^2 - bx + 10$ is divisible by $x^2 - 3x + 2$, find the values of a and b .
8. Using factor theorem, factorize each of the following polynomials:
 - (i) $x^3 - 6x^2 + 3x + 10$
 - (ii) $2y^3 - 5y^2 - 19y + 42$
9. Which one is not a polynomial
 - (a) $4x^2 + 2x - 1$
 - (b) $x^3 - 1$
 - (c) $y^2 + 5y + 1$
11. Find the number of zeros of $x^2 + 4x + 2$.

12. Find the value of k, if $(x - 1)$ is a factor of $4x^3 + 3x^2 - 4x + k$.

14. If $x = \frac{\sqrt{3} - \sqrt{2}}{\sqrt{3} + \sqrt{2}}$ and $y = \frac{\sqrt{3} + \sqrt{2}}{\sqrt{3} - \sqrt{2}}$, find the value of $x^2 + y^2 + xy$.

If $x = \frac{2 - \sqrt{5}}{2 + \sqrt{5}}$ and $y = \frac{2 + \sqrt{5}}{2 - \sqrt{5}}$, find the value of $x^2 - y^2$.

15. Determine rational numbers p and q if

$$\frac{7 + \sqrt{5}}{7 - \sqrt{5}} - \frac{7 - \sqrt{5}}{7 + \sqrt{5}} = p - 7\sqrt{5}q.$$

16. Simplify: $\frac{3\sqrt{2}}{\sqrt{6} - \sqrt{3}} + \frac{2\sqrt{3}}{\sqrt{6} + 2} - \frac{4\sqrt{3}}{\sqrt{6} - \sqrt{2}}$

17. Show that: $\frac{1}{3 - \sqrt{8}} - \frac{1}{\sqrt{8} - \sqrt{7}} + \frac{1}{\sqrt{7} - \sqrt{6}} - \frac{1}{\sqrt{6} - \sqrt{5}} + \frac{1}{\sqrt{5} - 2} = 5$

18. If: $x = \frac{\sqrt{p+q} + \sqrt{p-q}}{\sqrt{p+q} - \sqrt{p-q}}$, then find the value of $qx^2 - 2px + q$.

19. Show that: $\frac{x^{-1} + y^{-1}}{x^{-1}} + \frac{x^{-1} - y^{-1}}{x^{-1}} = \frac{x^2 + y^2}{xy}$

20. If $2^a = 3^b = 6^c$ then show that $c = \frac{ab}{a+b}$.

21. If $x = 2$ and $x = 0$ are zeroes of the polynomial $2x^3 - 5x^2 + px + b$, then find the value of p and b.

22. Simplify and factorise $(a + b + c)^2 - (a - b - c)^2 + 4b^2 - 4c^2$.

23. If $a + b + c = 6$ and $ab + bc + ca = 11$, find the value of $a^3 + b^3 + c^3 - 3abc$.

24. The polynomial $bx^3 + 3x^2 - 3$ and $2x^3 - 5x + b$ when divided by $x - 4$ leave the remainders R1 and R2 respectively. Find the value of b if $2R1 - R2 = 0$.

25. If $f(x) = x^4 - 4x^3 + 3x^2 - 2x + 1$, then find whether $f(0) \times f(-1) = f(2)$.

26. Prove that: $(x+y)^3 + (y+z)^3 + (z+x)^3 - 3(x+y)(y+z)(z+x)$.

27. Verify if $\frac{1}{2}$ and $-\frac{3}{2}$ are zeroes of the polynomial $8x^3 - 4x^2 - 18x + 9$. If yes, then factorise the polynomial.

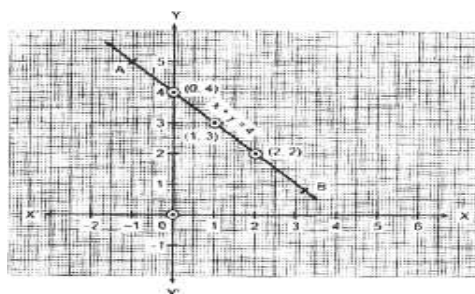
28. Using long division method, show that the polynomial $p(x) = x^3 + 1$ is divisible by $q(x) = x + 1$. Verify your result using factor theorem

COORDINATE GEOMETRY

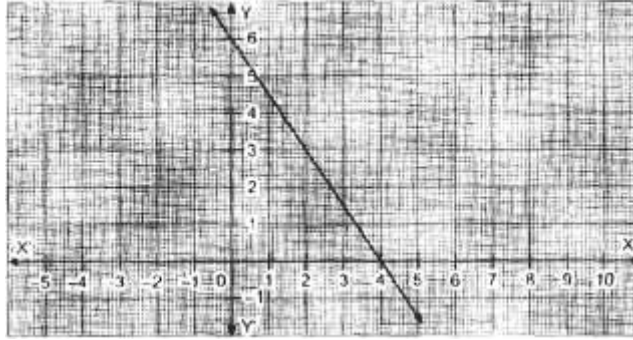
1. Name the quadrants in which following points $(3,0)$ $(-9,-3)$.
2. Determine the graph of the equation $y = 2x - 3$
3. Draw the graph of $y = 4x$. From the graph find the value y when $x = -2$
4. Draw the graph of $x - 10 = 0$. What type of graph is it?
5. Draw the graph of $y = -x$ (3)
6. The points $(-2,5)$ and $(3,-5)$ are plotted in xy planes. Find the slope and y intercept of the line joining the points.
7. Draw the graph of equation $3x + 6y = 12$. Find the coordinates of the point where the graph cuts the y -axis.
8. How does the graph of $y = mx$, depend on the value of m . Also draw graph when $m = 2, 3$
9. In which quadrant will these points $(3,-5)$, $(-3,-1)$
10. Determine the slope and y -intercept of line $2x + 3y + 7 = 0$

LINEAR EQUATIONS IN TWO VARIABLES

1. Show that $x = 1$, $y = 3$ satisfy the linear equation $3x - 4y + 9 = 0$.
2. Look at the following graphical representation of an equation. Which of the points $(0, 0)$ $(0, 4)$ or $(-1, 4)$ is a solution of the equation?
3. Look at the following graphical representation of an equation. Which of the following is not its solution?
(a) $(6, 0)$ (b) $(4, 0)$ (c) $(2, 3)$
4. Is $(3, 2)$ a solution of $x + y = 6$?



5. Is $(2, \frac{8}{3})$ a solution of $2x + 3y = 12$?



6. (i) Write the equation of x-axis.

(ii) Write the equation of y-axis.

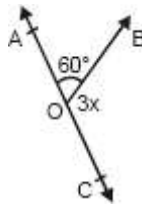
7. Express $-2x + \frac{3}{2}y - 4 = 0$ in the form of $ax + by + c = 0$ and write the value of a, b and c.

8. Express $2x = 5$ in the form $ax + by + c = 0$ and find the value of a, b and c.

9. Write two solutions of $3x + y = 8$.

10. If $x = -1$ and $y = 2$ is a solution of $kx + 3y = 7$, find the value k.

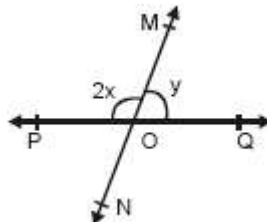
LINES AND ANGLES



1. In the given figure, AOC is a line, find x.

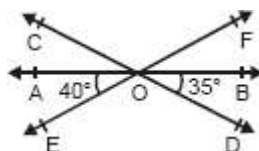
2. In the given figure, \overline{PQ} and \overline{MN} intersect at O.

(a) Determine y, when $x = 60^\circ$.



(b) Determine x, when $y = 40^\circ$.

3. In the given figure, lines Ab, CD and EF intersect at O.



Find the measure of $\angle AOC$, $\angle COF$.

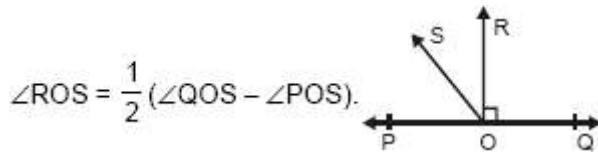
4. The exterior angles obtained on producing the base of a triangle both ways are 100° and 120° . Find all the angles.

5. $\triangle ABC$ is right angled at A and $AL \perp BC$. Prove that $\angle BAL = \angle ACD$.

6. If two parallel lines are intersected by a transversal, prove that the bisectors of the two pairs of interior angles enclose a rectangle.

7. The angles of a triangle are arranged in ascending order of magnitude. If the difference between two consecutive angles is 10° , find all the three angles.

8. In the given figure, POQ is a line. Ray $\overline{OR} \perp PQ$. \overline{OS} is another ray lying between rays \overline{OP}



and \overline{OR} . Prove that

9. Can a triangle have two obtuse angles? Give reason for your answer.

10. How many triangles can be drawn having its angles as 45° , 64° and 72° ? Give reason for your answer.

PROJECT: Make a poster on any one of the five chapters taught in the class (24inch x 36 inch chart paper). Your work will be judged on the following parameters.

	Excellent 3 pts	Good 2 pts	Fair 1 pts	Poor 0 pts
Content of poster	Excellent Poster clearly demonstrates the math topic selected and represents it accurately.	Good Poster has most of the math concept selected correctly represented.	Fair Parts of the poster relate to math concept selected, however, the overall message of the poster does not	Poor The requirements of the poster project are not understood. Presentation does not pertain to the math concept selected.

			represent the topic.	
Presentation Representation, Illustrations and Explanations	Excellent Complete concept is illustrated, and well-explained using math terms and details.	Good Complete concept is represented but minimal explanation is given.	Fair Most of the required concept is completed; explanations are limited or missing; infrequent or no use of math terms.	Poor Concept is given with little or no detail.
Clarity and Neatness	Excellent WOW! Poster is well-organized, neatly presented in a colorful and engaging manner. Viewer can easily follow the flow of information presented	Good Poster presents concept in a neat manner. All of the concept is visible, but lacks organization for clarity.	Fair Poster requires viewer to study presentation to find all the pieces of the task. Writing may not be readily legible or organized.	Poor Concept segments are haphazardly presented with no apparent organization; lacks necessary neatness needed to easily inform viewer.
Accuracy	Excellent All information is complete and	Good Most of the information is correct and	Fair Some of the required information	Poor Most of the required information is

	correct.	complete.	is missing.	not included.
Understanding of concept	Excellent Student obviously understands the concepts on the poster and is able to explain and apply the concepts.	Good Student somewhat understands the concepts but shows uncertainty about some aspects of application.	Fair Student struggles to understand or explain much about the topic of the poster.	Poor Student understanding is minimal.

INFORMATION TECHNOLOGY

Holiday Homework

Draw the layout of Libre Office Writer Window on a chart paper.

Label the following parts:

- Title bar
- Menu bar
- Standard toolbar
- Formatting toolbar
- Work area
- Status Bar
- Scroll bars and buttons
- Zoom

Unit Test-1 Syllabus

Unit-3 Digital Documentation

SUBJECT: CHEMISTRY

1. Prepare a dictionary for chemistry and write down the following:

(a) Name, Symbol, Atomic Number, Atomic Mass, Number of electrons, Number of protons and number of neutrons and the valency of the first 20 elements of the periodic table.

(b) Name and define the minimum 20 technical terms of chemistry preferably which have been used in the first four chapters of chemistry available in science NCERT textbook.

2. Define and write down the uses of at least 15 apparatus of chemistry lab with their diagrams in the practical notebook preferably those shown in school chemistry laboratory.

3. Learn chapter -1 of chemistry till the topic latent heat. A kind of class activity in the form of seminar will be conducted after vacations.

BIOLOGY

Make a ppt on cell and its structure.

PHYSICS

1) Do text question no. 1 to 8 from motion chapter (file pages)

2) Derive the three equations of motion.

3) Learn the syllabus for unit test -1(motion)

SUBJECT-SOCIAL SCIENCE

HISTORY: (Any one of the following)

1. Make a scrap book on the following-

a) Dateline of French Revolution(page 8)

Or

b) February and October Revolution

2. Write the “Declaration of Rights of Man and Citizen” on a chart paper.

3. Take an ivory sheet and draw any one political symbol of French Revolution(along with it's explanation).

POLITICAL SCIENCE: (Any one of the following)

1. Take an ivory sheet and write the features of democracy on it.
2. Make the “Preamble of India” on a chart paper.
3. Write all the Fundamental Rights of India on an ivory sheet.

GEOGRAPHY and ECONOMICS:

1. Make project on any one topic on Disaster Management-
a) Natural disaster b) Man made disaster c) First aid
(Include any two case studies of the concerned topic)
2. Complete all the given map work in your fair note books.
3. Make 10 one word questions from each chapter of UT I with correct answers.
4. Write them in your geography notebooks-
Define the following terms in brief-
 - a. Rotation
 - b. Revolution
 - c. Inclination of Earth’s axis
 - d. Longitude
 - e. Latitude
 - f. IST
 - g. GMT
 - h. Tropical climate
 - i. Temperate climate
 - j. Orographic rainfall
 - k. Deltas
 - l. Rivers
 - m. Streams
 - n. Marshy
 - o. Swampy
 - p. Rocks
 - q. Pebbles
 - r. Alluvium
 - s. Doab
 - t. Flood plains
 - u. Peninsula