

Holidays Home Work

Class - IX

Subject - Maths

① If $\sqrt{2} = 1.4142$, then find the value

$$\text{of } \sqrt{\frac{\sqrt{2}-1}{\sqrt{2}+1}}$$

② Simplify: $\sqrt[4]{\sqrt[3]{2^2}}$

③ Simplify: $(256)^{0.16} \times (256)^{0.09}$

④ Find the value of a and b. if

$$\frac{\sqrt{2} + \sqrt{3}}{3\sqrt{2} - 2\sqrt{3}} = 2 - b\sqrt{6}$$

⑤ Simplify:

$$(1^3 + 2^3 + 3^3)^{\frac{1}{2}}$$

⑥ If $a = 5 + 2\sqrt{6}$ and $b = \frac{1}{a}$, then

what will be the value of $a^2 + b^2$?

⑦ Express $0.\overline{6} + 0.\overline{7} + 0.\overline{47}$ in the form

$\frac{p}{q}$, where p & q are integers & $q \neq 0$.

⑧ Find the value of $\frac{4}{(216)^{-\frac{2}{3}}} + \frac{1}{(256)^{-\frac{3}{4}}} + \frac{2}{(243)^{-\frac{1}{5}}}$

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

10) If $a = \frac{3 + \sqrt{5}}{2}$, then find the value of $a^2 + \frac{1}{a^2}$.

11) If $P(x) = x^2 - 2\sqrt{2}x + 1$ then find $P(2\sqrt{2})$.

12) Factorize: $(x+y)^3 - (x^3 + y^3)$

13) If $49x^2 - b = \left(7x + \frac{1}{2}\right) \left(7x - \frac{1}{2}\right)$, then find the value of b .

14) Without actually calculating the cubes, find the value of $(x-y)^3 + (y-z)^3 + (z-x)^3$

15) For the polynomial $\frac{x^3 + 2x + 1}{5} - \frac{7}{2}x^2 - x^6$,

write (i) the degree of the polynomial

(ii) the coefficient of x^3

(iii) the coefficient of x^6

(iv) the constant term

16) If $x+1$ is a factor of $ax^3 + x^2 - 2x + 4a - 9$, find the value of a .

17) Factorise: $a^3 - 2\sqrt{2}b^3$

18) If both $x-2$ and $x - \frac{1}{2}$ are factors of $Px^2 + 5x + r$, show that $P = r$.

(19) If $a+b+c=5$ and $ab+bc+ca=0$,

prove that $\frac{a^2}{bc} + \frac{b^2}{ca} + \frac{c^2}{ab} = 3$

(20) If $a+b+c=5$ and $ab+bc+ca=10$,

then prove that $a^3+b^3+c^3-3abc=-25$.

(21) Plot the point $P(-6,2)$ and from it draw PM and PN as perpendiculars to x -axis and y -axis, respectively. Write the co-ordinates of the points M and N .

(22) Find the co-ordinates of the point

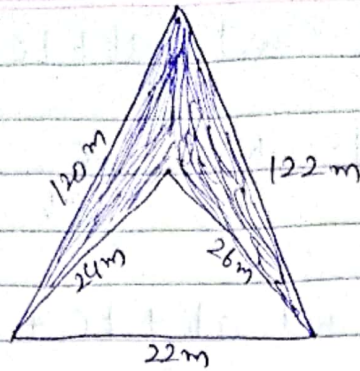
- (i) which lies on x and y axes both.
- (ii) whose ordinate is -4 and which lies on y -axis.
- (iii) whose abscissa is 5 and which lies on x -axis.

(23) Three vertices of a rectangle are $(3,2)$, $(-4,2)$ and $(-4,5)$. Plot these points and find the co-ordinate of the fourth vertex.

(24) A point lies on the x -axis at a distance of 7 units from the y -axis. What are its co-ordinates? What will be the co-ordinates if it lies on y -axis at a distance of -7 units from x -axis?

(25) Plot the points $(1,3)$, $(-1,-1)$, $(-2,-3)$. Check whether the points are collinear or not.

(26) Calculate the area of the shaded region.



- (27) If each side of triangle is double, then find the ratio of area of the new triangle thus formed and the given triangle.
- (28) The area of the isosceles triangle is $\frac{5\sqrt{11}\text{cm}^2}{4}$ if the perimeter is 11 cm and find base.
- (29) If the area of an equilateral triangle is $20\sqrt{3}\text{cm}^2$ find side.
- (30) If edges of a triangular board are 6cm, 8cm and 10cm. Find the cost of painting it at the rate of 9 paise per cm^2 .

Activity:

- * To obtain the mirror image of a given geometrical figure with respect to x-axis and y-axis
- * To derive a formula for finding the area of a triangle.

Act Integrated Project:

Prepare the project on topic Ecological Environment

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|------------------|--------------------------------|
| • Climate Change | • Environmental degradation |
| • Pollution | • Resources of their depletion |

HOLIDAYS HOMEWORK-CLASS IX (2023-24)

SUBJECT-SOCIAL SCIENCE

NOTE-

Two Projects have been given. These projects are compulsory for all. Students should use pictures, diagrams, data, pie charts, and case study etc. Project should be neat and clean and Presentation should be proper. Hand made diagrams and pictures will be given preference in Project. Students should also write Biodata, Acknowledgement, Index, Introduction, Bibliography, Conclusion and remarks. Students can use pencil colours. Project should be completed in not more than 12 to 15 sheets.

ACTIVITY -1 CBSE-SUBJECTIVE PROJECT-

Prepare a project on the topic **Natural and Manmade** disaster.

Activity-2 CBSE ART INTEGRATED PROJECT

Prepare a project on the topic **Ecological Environment of Manipur** under the following headings

- **Climate Change**
 - **Pollution**
 - **Environmental degradation**
 - **Resources and their depletion**
 - **Vegetation and Wildlife**
 - **Genetically Modified Food and Global Warming**
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- Learn UT-2 Syllabus thoroughly.
 - Practice all maps related to the chapters taught in class.

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CLASS-9 HOLIDAY HOMEWORK

Note: the home work should be submitted in a handmade folder.

1. Prepare any 1 SDG out of 17 and Write a paragraph about it. Colour the logo as well.
2. Make a chart (A-4 size) about 10 poetic devices done so far along with at least 2 examples from the textbook. Present it in a tabular/ web chart form.
3. Read any 5 short stories of Ruskin Bond and write a book review on any one.
 - It Should Include
 - Title of the story
 - year of publishing
 - Preface
 - main characters
 - Genre
 - And your favourite character and why.

Prepare U-2 syllabus

ART - INTEGRATED ACTIVITY. (MANIPUR)

Collect the following information about and write a journal about the following on A-4 size sheet.

- a) Flora & Fauna of Manipur
- b) Handicrafts of Manipur
- c) Endangered Animals of Manipur
- (d) Conservation and Protection Act of Govt. for Manipur's flora and fauna.
- e) Compare the weather pattern of 3 different cities of Manipur
- f) Impact of Global warming on Manipur

कक्षा नवी
विषय हिंदी
ग्रीष्म अवकाश हेतु गृह कार्य (2023-24)

निर्देश:-कार्य को स्वच्छता से करें व भाषा की वर्तनी पर विशेष ध्यान दें।

- 1.संत कवि 'कबीर दास जी' या "कवि रसखान" के नीतिपरक दोहे, पदों व शब्दों का संकलन करके एक सचित्र परियोजना कार्य लगभग (4-5) पृष्ठ में तैयार कीजिए।
- 2.'भारतीय एकता व संस्कृति' को दर्शाती हुई स्वरचित एक कविता लिखें। आप इससे संबंधित कोई चित्र भी बना सकते हैं।
- 3.'लहासा की ओर' पाठ में लेखक ने अपनी तिब्बत यात्रा का बड़ा ही रोमांचक वर्णन किया है, अगर आपने भी किसी पर्वतीय स्थान की यात्रा की है तो उसका अनुभव यात्रा वृत्तांत (लेख) के रूप में लिखिए।
4. प्रसिद्ध लेखक (मुंशी प्रेमचंद, महादेवी वर्मा) द्वारा रचित कहानी को पढ़कर किन्हीं दो पात्रों का चरित्र चित्रण कीजिए।
5. मणिपुर की (पारिस्थितिकी वातावरण) अर्थात् वहां का जनजीवन, प्राकृतिक सुंदरता (पहाड़ नदियां पेड़-पौधे प्रकृति का सुंदर रूप) का वर्णन लगभग(2-3) पृष्ठ में परियोजना कार्य के रूप में कीजिए।
- 6.करवाए गए पाठ्यक्रम की पुनरावृत्ति करें।