

KV ONGC SIVASAGAR

HOLIDAY HOMEWORK 2018

CLASS- IX SUBJECT- MATHEMATICS

1. Locate  $\sqrt{2}$  on number line.
2. Find five rational numbers between  $1/8$  and  $1/5$ .
3. Express the rational number  $1/13$  in decimal form and hence find the decimal expansion of  $4/13$ .
4. Express the following recurring decimal expansions in the form  $p/q$ , where  $p$  and  $q$  are integers and  $q \neq 0$ .  
(i)  $0.666666\dots$  (ii)  $1.27272727\dots$  (iii)  $0.235353535\dots$
5. Simplify the following expressions:  
(i)  $(2\sqrt{2}+5\sqrt{3}) + (\sqrt{2}-3\sqrt{3})$  (ii)  $(\sqrt{3} + \sqrt{5})^2$  (iii)  $(\sqrt{11}-\sqrt{7})(\sqrt{11}+\sqrt{7})$
6. Rationalise the denominator of the following:  
(i)  $1/\sqrt{2}$  (ii)  $5/(\sqrt{5}-\sqrt{3})$  (iii)  $(2\sqrt{3}-\sqrt{5})/(2\sqrt{2}+\sqrt{3})$
7. Simplify: (i)  $64^{1/2}$  (ii)  $32^{2/5}$  (iii)  $2^{2/3} \cdot 2^{1/5}$  (iv)  $7^{1/2} \cdot 8^{1/2}$
8. Find the value of  $5x^2 - 3x + 7$  at  $x=1$ .
9. Verify whether 2 and 0 are zeroes of the polynomial  $x^2 - 2x$ .
10. Find the remainder when  $x^4 + x^3 - 2x^2 + x + 1$  is divided by  $x - 1$ .
11. Examine whether  $x+2$  is a factor of  $x^3 + 3x^2 + 5x + 6$  and  $2x+4$ .
12. Find the value of  $k$ , if  $x-1$  is a factor of  $4x^3 + 3x^2 - 4x + k$ .
13. Factorise; (i)  $3x^2 + 7x + 2$  by splitting the middle term.  
(ii)  $x^2 - 5x - 24$  by using factor theorem.
14. Factorise (i)  $x^3 + 13x^2 + 32x + 20$  (ii)  $2y^3 + y^2 - 2y - 1$
15. Evaluate (i)  $101 \times 103$  (ii)  $(99)^3$  (iii)  $(-12)^3 + (7)^3 + (5)^3$  using suitable identities.
16. Expand (i)  $(2x - y + z)^2$  (ii)  $(2a - 3b)^3$
17. Factorise (i)  $25x^2 - 9y^2$  (ii)  $125x^3 + 225x^2y + 135xy^2 + 27y^3$   
(iii)  $4x^2 + 9y^2 + 16z^2 + 12xy - 24yz - 16xz$

18. For the identity  $(7 + \sqrt{5}) / (7 - \sqrt{5}) - (7 - \sqrt{5}) / (7 + \sqrt{5}) = a + 7\sqrt{5} b$  determine the rational numbers a and b.

19. If  $a = 2 + \sqrt{3}$ , then find  $a^2 + 1/a^2$ .

20. Express  $\sqrt{3.5}$  geometrically.

**PROJECT:** Verify the statement that “for a natural number n,  $\sqrt{n}$  is either a natural number or an irrational number” by drawing a square root spiral.

### Computer Holiday homework

1. List all the popular search engines in the market and paste their pictures.
2. Write a brief note on E commerce.
3. Name all the websites related to E commerce.

# HOLIDAY ASSIGNMENT

## CLASS – IX

### History

1. Explain the term “Society of Estate”?
2. Define the term “Triangular trade”?
3. What was the impact of French Revolution on France?
4. Explain the achievement of Napoleon.

### Geography

1. Name the three newly formed states.
2. Distinguish between
  - a) Local time and Standard time
  - b) Latitudinal and Longitudinal
3. Why do we need a standard meridian for India? Explain.

### Political Science

1. Define
  - a) Democracy
  - b) Dictatorship
2. Name any four democratic countries of the world.
3. Explain the main challenges to democracy. Suggest remedies to face those challenges.

### Economics:

1. Explain
  - a) Green Revolution
  - b) Multiple cropping
2. Is Palampur a developed village? Justify your answer.
3. Explain any three features of labour as a factor of production.

### CHART: (ANY ONE)

**History:** Political Symbols (Page 13)

**Economics:** Economic activities (Picture 2.3, page -19)

**Political Science:** Pride for the Nation (6 character Page -48)

**Geography:** Indian Wildlife Reserves (page – 49)

## **ENGLISH HOLIDAY HOMEWORK FOR CLASS 9**

- 1) Questions and answers of the lesson “ The Lost Child” from the supplementary book Moments
- 2) In a stick file they have to prepare two chapters on grammar \_ Subject-Verb Concord and Clauses along with their classifications.

## **HOLIDAY HOMEWORK FOR IXTH STD( SCIENCE)**

### **HOMEWORK FOR BIOLOGY**

1. Name the smallest cell and the longest cell In human body.
2. Name 3 features present in every living cell.
3. How does Amoeba obtain its nutrition?
4. What are plastids? Name the different types of plastids found in plant cells.
5. Name the autonomous organelles present in a plant cell.
6. Name 2 cells which keep changing their shapes.
7. Name 2 cells with cell walls.
8. What are cisterns?
9. Name 2 conditions required for osmosis.
10. Do vacuoles store some materials? If yes, what are those?
11. What is endocytosis?

### **Home work for Chemistry.**

1. What do you mean by Latent heat of fusion and Latent heat of vaporisation?
2. What will be the result if pressure is decreased on the solid CO<sub>2</sub>?

- 3. Though sponge is a solid substance, it can be squeezed – write the reason.**
- 4. When a puffed balloon is kept the sun, it bursts after a certain period, why?**
- 5. What is the usage of high compressibility of gas?**
- Question nos. 6, 7 and 8 from Exercise 1 will also to be done.**