

SUMMER BREAK HOLIDAY HOMEWORK  
SUB - MATHEMATICS CLASS - VIII  
KV AU SILCHAR

(A) Fill in the blanks:-

①  $-1$  is neither \_\_\_\_\_ nor \_\_\_\_\_ number.

②  $-\frac{8}{12}$  is a rational number in its standard form.

True / False - \_\_\_\_\_.

③ The solution of  $3t = 6t - \frac{21}{5}$  is \_\_\_\_\_.

(B) Answer the following questions:-

④ The sum of three consecutive nos. is 57. Find them.

⑤ After 4 years, Shanti will be 3 times as old as she is now. Find her age.

⑥ The number of blue and green balls in a box is in the ratio  $7:5$ . If number of blue balls is 8 more than no. of green balls, find the total number of balls in the box.

⑦ Find the sum:  $\frac{5}{3} + \frac{24}{17} + \left(-\frac{2}{3}\right) + \left(-\frac{7}{17}\right)$

⑧ What should be added to  $\frac{9}{4}$  to get  $-\frac{5}{12}$ ?

⑨ Multiply  $\frac{1}{8}$  with the reciprocal of  $-\frac{7}{16}$ .

⑩ One shirt needs  $\frac{2}{4}$  m cloth. How many shirts can be made from  $31\frac{2}{4}$  m cloth?

⑪ By what rational number should we multiply  $\frac{11}{5}$  to get  $-\frac{33}{25}$ ?

⑫ The sum of four consecutive numbers is 64. Find the prime numbers out of these four numbers.

(C) Find the value of the variable:

⑬  $\frac{7t+4}{t+2} = -\frac{4}{3}$

⑮  $\frac{13}{7} - \frac{7x}{5} = -\frac{29}{7}$

⑭  $\frac{t}{5} = \frac{t-1}{6}$

⑯  $\frac{p-2}{3} - 1 = 7$

SUMMER BREAK HOLIDAY HOMEWORK

SUB - MATHEMATICS CLASS - VII

KV AU SILCHAR

(A) Tick the correct option:

(1) Which of the following shows the maximum rise in temperature?  
 (a)  $0^{\circ}\text{C}$  to  $10^{\circ}\text{C}$  (b)  $-4^{\circ}\text{C}$  to  $18^{\circ}\text{C}$  (c)  $-15^{\circ}\text{C}$  to  $-8^{\circ}\text{C}$  (d)  $-7^{\circ}\text{C}$  to  $0^{\circ}\text{C}$

(2) The value of  $\frac{1}{3} + 3$  is -

(a)  $\frac{10}{3}$  (b)  $\frac{4}{3}$  (c)  $\frac{6}{3}$  (d) None of these.

(B) Answer the following questions:

(3) Sonu ate  $\frac{2}{5}$  part of a cake and the remaining cake was eaten by Sandhya. How much cake did Sandhya eat? Who ate the larger share and by how much?

(4) A 5.25m of cloth costs ₹ 275, find the cost of 1m cloth. Also find the cost of 3m cloth.

(5) Reena reads a book for  $1\frac{3}{4}$  hours daily. She reads the entire book in 4 days. How many hours were required by her to read the book?

(6) Find the value of the following:

(a)  $\frac{1}{3} \div 4$  (b)  $2\frac{1}{3} \div 4\frac{3}{5}$  (c)  $2\frac{1}{5} \div 3\frac{1}{5}$  (d)  $\frac{5}{2} \div 2\frac{1}{2}$

(7) In a class of 40 students,  $\frac{1}{5}$  of the total number of students like to eat rice and  $\frac{2}{5}$  of the total students like to eat roti. How many students like to eat rice? If the remaining students like to eat both rice and roti, find the number of such students.

(8) In a quiz, ₹ 500 is awarded for every correct answer and ₹ 100 for every incorrect answer is taken away. Rashmi answered 10 questions correctly and 4 incorrectly. How much money will she get?

(9) Verify that  $a \div (b+c) \neq (a \div b) + (a \div c)$  for  $a=12$ ,  $b=-4$  and  $c=2$ .

(10) A shop keeper earns a profit of ₹ 1 by selling a notebook and has a loss of 40 paise per eraser while selling ~~ea~~ erasers from old stock. In a particular month he sells 45 notebooks. Also he incurs loss of ₹ 5. Find how many erasers he sold.

(2) Find: -

(11)  $(-72) \div [(-70) + (-2)] = \underline{\hspace{2cm}}$ .

(12) Roni purchased a notebook for ₹ 26.25, a pencil for ₹ 5.45 and an eraser for ₹ 10.50. He gave ₹ 50 to the shopkeeper. What amount did he get back?

(13) Divide  $\frac{3}{10}$  by  $(\frac{1}{4} \text{ of } \frac{3}{5})$

(14) A farmer has 182 animals out of which  $\frac{6}{7}$  are cattle. Among the cattle,  $\frac{2}{3}$  are cows. Find the number of cows.

(15)  $(3\frac{3}{5} + 2\frac{3}{4}) - \frac{5}{6} = \underline{\hspace{2cm}}$ .

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# SUMMER BREAK HOLIDAY HOMEWORK

CLASS - IX SUB - MATHEMATICS

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① Classify the following as rational or irrational numbers. State reason.

(a)  $3\sqrt{18}$       (b)  $\sqrt{\frac{9}{27}}$       (c) 0.3796      (d)  $(1+\sqrt{5}) - (4+\sqrt{5})$

② Express  $0.\overline{06}$  in  $\frac{p}{q}$  form.

③ Simplify:  $\frac{1}{\sqrt{5}+\sqrt{3}} + \frac{1}{2}(\sqrt{5}-\sqrt{3})$

④ If  $(5)^{x-3} \times (3)^{2x-8} = 225$ , find  $x$ .

⑤ Simplify:  $\frac{7+\sqrt{3}}{7-\sqrt{3}} + \frac{7-\sqrt{3}}{7+\sqrt{3}}$

⑥ If  $(a+b+c) = 9$  and  $(ab+bc+ca) = 40$ , find  $(a^2+b^2+c^2)$ .

⑦ If  $p(x) = x^2 - 2\sqrt{2}x + 1$ , find  $p(2\sqrt{2})$

⑧ Find  $p(0)$ ,  $p(1)$  and  $p(2)$  for the following:

(a)  $p(x) = 10x - 4x^2 - 3$       (b)  $p(x) = (x+2)(x-2)$

⑨ Factorize:  $9x^2 + y^2 + z^2 - 6xy + 2yz - 6xz$  for  $x=1, y=2, z=-1$ .

⑩ Prove that:  $(a+b+c)^3 - a^3 - b^3 - c^3 = 3(a+b)(b+c)(c+a)$

⑪ If  $\sqrt{u} + \sqrt{v} - \sqrt{w} = 0$ , find value of  $(u+v-w)$

⑫ Factorize (i)  $2x^2 - 7x - 15$  (ii)  $81 - 2r - 2r^2$

⑬ If  $g(x) = 1 - \frac{3}{2}x$ , find if  $g(x)$  is a factor of  $p(x) = x^3 - 6x^2 + 2x - 4$ .

⑭ Factorize:  $8p^3 + \frac{12}{5}p^2 + \frac{6}{25}p + \frac{1}{125}$

⑮ Simplify:  $27x^3 - (3x-y)^3$

⑯ Evaluate:  $(2x-y+3z)(4x^2+y^2+9z^2+2xy+3yz-6xz)$

(17) If  $(x+4)$  is one of the factors of the polynomial  $x^3 - x^2 - 14x + 24$ , find the other factors.

(18) Factorize:  $2x^3 - 3x^2 - 17x + 30$ .

(19) Find the zeroes of the polynomial,  
 $p(x) = (x-2)^2 - (x+2)^2$

(20) If  $(x+y+z) = 1$ ,  $xy + yz + zx = -1$  and  $xyz = -1$ , find value of  $x^3 + y^3 + z^3$ .

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SUMMER BREAK HOLIDAY HOMEWORK

CLASS - X SUB - MATHS

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- ① Find HCF of (525, 3000) and LCM of (525, 3000).
- ② Prove that  $11 - 2\sqrt{5}$  is an irrational number.
- ③ If the HCF of 336 and 54 is 6, find the LCM of 336 and 54.
- ④ Find a quadratic polynomial whose sum and product of roots are  $(5 + 2\sqrt{5})$  and  $3\sqrt{5}$  respectively.
- ⑤ If  $-3$  is one of the roots of polynomial  $(k-1)x^2 + kx + 1 = 0$ , find value of  $k$ .
- ⑥ Find the value of  $k$  such that polynomial  $x^2 - (k+6)x + 2(2k-1)$  has sum of zeroes equal to their product.
- ⑦ Find all zeroes of the polynomial  $3x^3 + 10x^2 - 9x - 4$  if one of its zeroes is 1.
- ⑧ For what value of  $p$ , the pair of equations will represent parallel lines?  
 $3x - y - 5 = 0$   
 $6x - 2y - p = 0$
- ⑨ What type of lines does the given equations represent?  
 $2x + y = 3$   
 $4x + 2y = 6$
- ⑩ If  $x = a$  and  $y = b$  are the solutions of pair of equations  $x - y = 2$  and  $x + y = 4$ , find 'a' and 'b'.
- ⑪ What will be the value of 'c' for which the system of equations  $cx - y = 2$  and  $6x - 2y = 3$  have infinitely many solutions?
- ⑫ Vijay had some bananas, and he divided them into two lots A and B. He sold lot A at ₹ 2 for 3 bananas and lot B at ₹ 1 per banana and got ₹ 400. If he had sold first lot at ₹ 1 per banana and second lot at ₹ 4 for 5 bananas, he would have got ₹ 460. Find total no. of bananas he had.

13) Determine the solution of the lines graphically.

$$3x - y = 3$$

$$2x - 3y = 2$$

14) Use elimination method to solve:

$$x - y = 20$$

$$x - 2y = -60$$

15) Use substitution method to solve:

$$x - 2 = 3(y - 2)$$

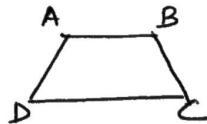
$$x + 6 = 2(y + 6) + 4.$$

16) Two numbers are in the ratio 5:6. If 8 is subtracted from both numbers, the ratio becomes 4:5. Find the numbers.

17) The angles of a triangle are  $x$ ,  $y$ ,  $40^\circ$ . The difference between  $x$  and  $y$  is  $30^\circ$ . Find  $x$  and  $y$ .

18) If  $(x+1)$  is a factor of  $2x^3 + ax^2 + 2bx + 1$ , then find values of 'a' and 'b' given that  $2a - 3b = 4$ .

19) The angles of a cyclic quadrilateral are  $\angle A = (6x + 10)^\circ$ ,  $\angle B = (5x)^\circ$ ,  $\angle C = (x + y)^\circ$  and  $\angle D = (3y - 10)^\circ$ . Find  $x$ ,  $y$  and values of  $\angle A$ ,  $\angle B$ ,  $\angle C$ ,  $\angle D$ .



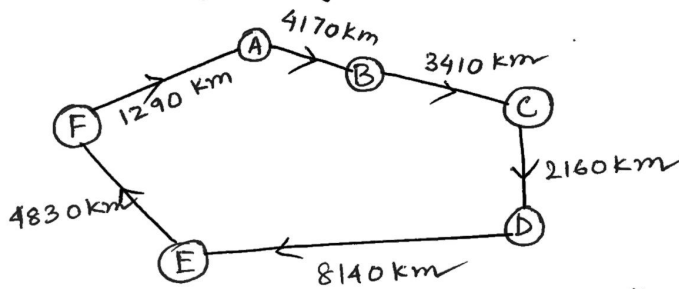
20) Solve the given pair of equations:

$$x + y = 6$$
$$2x + 7y + 2 = 0, \text{ if solution exists.}$$

10 x \_\_\_\_\_.

SUMMER BREAK HOLIDAY HOMEWORK  
 SUB - MATHEMATICS CLASS - VI  
 KV AU SILCHAR

- (A) Answer the following questions:
- ① (a)  $1 \text{ km} = \underline{\hspace{2cm}} \text{ cm}$   
 (b)  $1 \text{ kg} = \underline{\hspace{2cm}} \text{ mg}$
  - ② Make smallest four digit number using digits 4, 2, 5, 9.
  - ③ Find the factors of 45.
  - ④ Write first 10 multiples of 15.
  - ⑤ The total students in three schools - School A, School B, School C are 1900, 1500 and 2700 respectively. Find the total number of students in the three schools.
  - ⑥ A bus started from a certain point and completed its journey in 2 hours as shown in picture.



- ① Find the total distance between A and D.
- ② Find the total distance between B and E.
- ③ Find the total distance if bus starts from A and returns back to A.
- ④ Write all the factors of (a) 28 (b) 100.
- ⑤ If the cost of 1 book is ₹65, what will be the cost of 185 books?
- ⑥ The population of a town is 450772. If out of A persons, every 1 person is illiterate, then find the total illiterate persons in the town.
- ⑦ Find the difference between largest number of 4 digits and smallest number of 3 digits.



⑪ Raman had ₹ 61,000. He gave ₹ 1250 to Jyoti and ₹ 10,000 to Pooja. How much money does he have now?

⑫ Put commas according to Indian System and International System of Numeration:

(a) 55478210

(b) 920800020

(c) 485972901

(d) 100200401.

⑬ Write the following in words, according to Indian System of Numeration:

(a) 458720358

(b) 892724650

⑭ State True or False:

(a) 1 is the smallest prime number

(b) Sum of two even numbers is a odd number.

⑮ Write all prime numbers between 200 to 230.

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