HOLIDAY HOME WORK

CLASS IX Sub- Mathematics Paper 1

Q1 **1x6=6**

a) Show by giving an example that sum of two irrational number is a rational number.

b) Find three irrational number between $\sqrt{2} and \sqrt{3}$

c) Find the value of $(216)^{-2/3}$

d) Find the zeros of the polynomial x(x+3)

e) Define : Degree of polynomial.

f) What is the degree of the polynomial $4x^2+0x^3+0x^2+5x+7$?

Q **2** **2x5=10**

a) Find the value of k ,if (x-2) is a factor of $p(x) = kx^2-\sqrt{2}x+1$

b) Find the remainder when $4x^3-3x^2+2x-4$ is divided by $x+\frac{1}{2}$

c) Factorise a^3-b^3-a+b.

d) Represent $\sqrt{5}$ on the number line.

e) Find the product of $\sqrt[3]{2}.\sqrt[4]{2}.\sqrt[12]{2}$

Q3 **3x4=12**

a) Rationalise the denominator. $\frac{3\sqrt{5}+\sqrt{3}}{\sqrt{5}-\sqrt{3}}$

b) Represent $\sqrt{4.5}$ on the number line and justify.

c) Factorise $2y^3+y^2-2y+1$

d) Using suitable identity evaluate $(35)^3-(27)^3-(8)^3$

Q 4**.** **4x3=12**

a) If x+y+z =1 xy+yz+zx=-1 and xyz=-1 Find the value of $x^3+y^3+z^3$.

b) If $a^3+b^3+c^3=3abc$ and a+b+c =0 show that

$(b+c)^3/3bc+(c+a)^3/3ac+(a+b)^3/3ab = 1$

c) If a= $7-4\sqrt{3}$ find the value of $\sqrt{a}+\frac{1}{\sqrt{a}}$

HOLIDAY HOMEWORK

CLASS IX PAPER 2 Mathematics

Q1.

a) Write two irrational numbers between 0.21 and 0.2222..... 1X6=6
b) Show that product of two irrational number is always not irrational.
c) The decimal expansion of an irrational number is _____
d) What is constant polynomial ?
e) Find the coefficient of x in the expansion of $(x+3)^2$.
f) Zeros of t^2-2t are _____ and _____

Q2.

a) Write $(\frac{3}{2}x+1)^3$ in expanded form 2X5=10
b) For what value of k, y^3 +ky +2k -2 is exactly divisible by (y+1).
c) Evaluate using suitable identity 103x96.
d) Evaluate $(32/243)^{4/5}$.
e) Prove that $(\sqrt{3}-\sqrt{2})$ is an irrational number

Q3 a) if x= $2+\sqrt{3}$, find the value of $x^2+\frac{1}{x^2}$. 3X4=12

b) Visualise on the number line 3.7659.

c)If $x^2+\frac{1}{x^2}$ =14 find x^3 $+1/x^3$

d) Simplify $(a+b+c)^2 + (a-b+c)^2 +(a+b-c)^2$

Q4. 4X3=12

a) If remainder is same when polynomial $p(x) = x^3 +8x^2+17x +ax$ is divided by (x+2) and (x+1) . Find the value of a.
b) Find the possible expression for the dimension of a cuboid whose volume is $x^3 – 23x^2 +142x -120$ cubic unit
c) Prove that $\frac{1}{2+\sqrt{3}}+\frac{2}{\sqrt{5}-\sqrt{3}}+\frac{1}{2-\sqrt{5}}$ =0

HOLIDAY HOMEWORK

CLASS – IX SUB-MATHS PRACTICE PAPER 3

Q.1. 1X6=6

a) What is difference between rational and irrational number?

b) A rational number between $\sqrt{2} and \sqrt{3}$ is _____.

c) Simplify (-2-$\sqrt{3}$)(-2+$\sqrt{3}$).

d) Write factor theorem.

e) Find the zero of the polynomial p(x)=2x+5.

f) Write a binomial of degree 35.

Q.2. 2X5=10

a) Find the value of a if (x-1) is a factor of $2x^2+ax+\sqrt{2}$.

b) Write all the possible expression for the dimension of cuboid whose volume is $3x^2-12x$.

c) Verify wheather 2x-3 is a factor of $2x^2-9x^2+x+12$.

d) Rationalise the denominator of $\left[\frac{6-3\sqrt{2}}{6+3\sqrt{2}}\right]$.

e) Find the product of 3-$\sqrt{7}$ and its conjugate.

Q.3. 3X4=12

a) Simplify $3\sqrt{2}+\sqrt[4]{64}+\sqrt[4]{2500}+\sqrt[6]{8}$.

b) Locate $\sqrt{3}+1$ on the number line.

c) If 3x+y+z=0 show that $27x^3+y^3+z^3= 9xyz$.

d) Find the value of $(2.7)^3-(1.6)^3-(1.1)^3$.

Q.4.

a) Verify that $x^3+y^3+z^3-3xyz= \frac{1}{2}(x+y+z)\ [(x-y)^2+(y-z)^2+(z-x)^2]$ and hence find the value of $27^3+ (-14)^3+(-13)^3$.

b) Using factor theorem factorise the polynomial $x^4-2x^3-7x^2+8x+12$.

c) If x=7+4$\sqrt{3}$ then find the value of $\sqrt{x}+\frac{1}{\sqrt{x}}$

Class: IX

Holiday Home Work :

Activity Assignment :

1. SQUARE ROOT SPIRAL TAKING THE NUMBERS 2 TO 10 BY ACTIVITY