HOLIDAY HOME WORK

CLASS X SUB MATHS PAPER1 HOLIDAY HOME WORK

CLASS X SUB_MATHS PAPER 1

Q1.   1x6=6

    a) State fundamental theorem of arithmetic.

    b) What will be the value of $Sin^2 78^0 + Cos^2 12^0$.

    c) How many maximum zeros can a polynomial of degree three have?

    d) The H.C.F of two numbers 114and 209.find L.C.M.

    e) Write sum and product of zeros of the polynomial $6x^2-x-2$

    f) State the converse of Thales Theorem.

Q2.   2x5=10

    a) State whether the following Real numbers are rational or not

        i)   47. 5369821 ii) 3.2010010001……….

    b) Find the zeros of the polynomial $2x^2-5x-3$.

        If sin A= 5/7, calculate tan A

    c) In the figure if AD=6cm   DB= 9cm   and AE= 8cm .Find AC , Here DE∥ BC
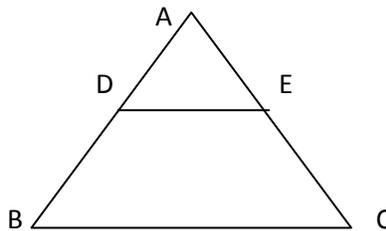
  d) Write a polynomial whose zeros are ½ and 2.
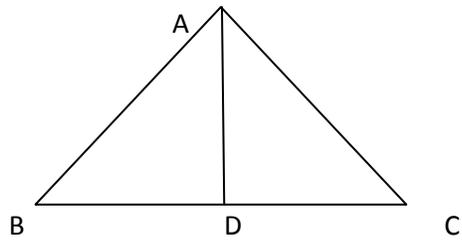
  e)Using Euclid's division algorithm Find the H.C.F of 2160 and 3520.

Q3.   3x4=12

    a) If Cot A=7/8   Evaluate (1+sin A)(1-sin A)/ (1+cos A)(1-cos A)

    b) Prove that $5+\frac{2}{3}\sqrt{13}$ is irrational.

    c) In The figure D is a point on side BC of ΔABC Such that $\frac{BD}{DC}=\frac{AB}{AC}$ Prove that AD bisect $\angle A$

d) Divide $3y^3 + 10xy^2 - 17x^2y + 6x^3$ by $2x - 3y$.

Q4. a) Show that square of any positive integer is of the form 3m or 3m+1 for some integer m.   4x3=12

b) If two zeros of the polynomial $x^4 - 6x^3 - 26x^2 + 138x - 35$ are $2 \pm \sqrt{3}$ find other zeros .

c) If tan A= n tan B and sin A =m sin B , prove that $\cos^2 A = (m^2 - 1)/(n^2 - 1)$

Q1   **1x6=6**

    a)   State Euclid's Division Lemma.

    b)   If LCM(12,28) =84, then what is the HCF(12,28)

    c)   Give an example of a biquadratic polynomial

    d)   What is the value of $\sec 31^0 - \csc 59^0$

    e)   When two triangles are said to be similar.

    f)   What is linear polynomial?

Q2.

    a)   Why 5x7x11+7 is a composite number?

    b)   Is x-2 a factor of the polynomial$3x^3 - 7x^2 + 10x - 16$?

    c)   Evaluate $\sin^2 30^0 \tan 60^0 + \cos^2 30^0 \tan 60^0$

    d)   Using prime factorization method ,find the HCF and LCM of 24.60,112

    e)   Find the quadratic polynomial whose zeros are respectively $\sqrt{3}$,-2

Q3.   **3x4=12**

    a)   Verify that 2,-1, -1/2 are zeros of the polynomial $2x^3 - x^2 - 5x - 2$

    b)   Show that 8^n cannot be end with digit 0 for any natural number n .

    c)   If $\sin(A+B) = \frac{\sqrt{3}}{2} = \cos(A-B)$ find the value of A and B

    d)   D is a point on side BC of ΔABC such that $\angle ADC \text{ and } \angle BAC$ are equal . prove that CA^2 =DCxBC

Q4.a) If (x-2) is a factor of $x^3 + ax^2 + bx + 16$ and a-b=6, find the value of a and b   **4x3=12**

b) Without performing the long division , determine whether the following rational numbers have terminating or non-terminating repeating decimal expansion.   I) 64/455 ii) 46/400 iii) 231/1260

iv) 29/343.

c) Find all the zeros of the polynomial $x^3 - 2x^2 - x + 2$.

HOLIDAY HOME WORK

CLASS X SUB_MATHS PAPER 3

Q1   1x6=6

a) Why 13/120 is a non terminating rational number ?
b) What is the zero of the polynomial ax+b where a≠ 0
c) Is sin θ =7/5 for any angle θ
d) Prove that $sin^2A +cos^2A=1$
e) What is called a zero of a polynomial p(x)?
f) Write the zeros of the polynomial x^2+2x+1.

Q2.   2x5=10

a) If tanA =cot(30^0 +a), find the value of A
b) Prove that $\sqrt{2}$ is an irrational number.
c) D and E are mid points AB and AC of ΔABC. If BC=6.4cm find DE
d) If sinA = cosA And A is an acute angle find$\angle A$
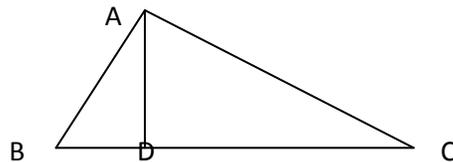e) Why is 7/60 a non-terminating rational number?

Q3.   3x4=12

a) If A is an acute angle of a right angled triangle, prove that

$\sqrt{(1+sinA)/(1-sinA)}$ =secA+tanA .

b) Find the zeros of the polynomial $3x^2$-x-4 and verify the relationship between the zeros and coefficiants

c) InΔABC right angled at A AD$\perp$ BC . Show that $\Delta ABD \sim \Delta CAD$

d) If the polynomial $3x^3$-$4x^2$-17x+k is exactly divisible by 3x-1 find the value of k.

Q4 a) .If Two zeros of a polynomial x^4+$3x^3$-$20x^2$-6x+36 are $\sqrt{2}$ and -$\sqrt{2}$, find other zeros 4x3=12

b) Prove that : $\frac{1+cosA}{sinA}$ +$\frac{sinA}{1+cosA}$ = 2cosec A

c) State and prove Pythagoras theorem.

ACTIVITY: Proof of Pythagoras theorem by activity.