Modern Public School, Sec-37, Faridabad

Summer Holiday Home Work

• Class X (Maths)

Session :- 2015-16

(1) Use Euclid's division algorithm find HCF of followings :-
(i) 10224, 9648 (ii) 180, 252 and 324

(2) Prove that following are irrational numbers :-
(i) $\sqrt{7}$ (ii) $3+\sqrt{5}$ (iii) $\sqrt{3}-\sqrt{5}$

(3) Find all the zeroes of the Polynomial $x^4-5x^3+2x^2+10x-8$ if two of its zeroes are $\sqrt{2}$ and $-\sqrt{2}$

(4) Find the zeroes of following quadratic polynomials and verify the relation between the zeroes and coefficients
(i) $3\sqrt{2}x^2+13x+6\sqrt{2}$ (ii) $25p^2-15p+2$

(5) If α and β are two zeroes of polynomial $25p^2-15p+2$ find another quadratic polynomial whose zeroes are $\frac{1}{2\alpha}$ and $\frac{1}{2\beta}$

(6) Divide $(2x^2+x-20)$ by $(x+3)$ and verify division algorithm.

(7) If d is the HCF of 45 and 27. Find (x, y) satisfying $d = 27x+45y$

(8) For what value of p will the following system of equations have no solution
$(2p-1)x+(p-1)y = 2p+1$; $y+3x-1=0$

(9) Solve (By using Cross multiplication Method)
$2(ax+by)+(a+4b)=0$
$2(bx+ay)+(b-4a)=0$

(10) Draw the graph of $2x+y=6$ and $2x-y-2=0$ on the same graph paper. Shade the region bounded by these lines with x-axis. Find the area of shaded region.

(11) The sum of digits of a two digit No is 11. The number obtained by interchanging the digits of the given number exceeds the number by 63. Find the number.

(12) The monthly incomes of A and B are in the ratio 5:4 and their monthly expenditures are in the ratio 7:5. If each saves Rs 3000/month. Find the monthly income of each.

(13) Check graphically whether the pair of linear equation $4x-y-8=0$ and $2x-3y+6=0$ is consistent. Also, find the vertices of the triangle formed by these lines with the x-axis.

(14) State and prove the Pythagoras theorem.

(15) State and prove converse of Pythagoras theorem.

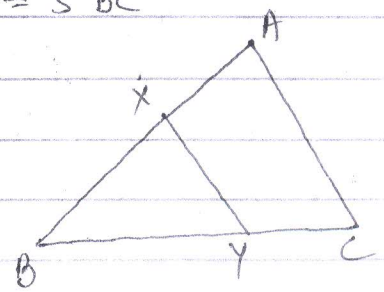
(16) State and prove Basic proportionality theorem.

(17) A ladder 25m long reaches a window of a house 20m above the ground level. Find the distance of the foot of the ladder from the house.

(18) Prove that "The ratios of areas of two similar triangles is equal to the square of the ratio of their corresponding sides."

(19) BL and CM are medians of a triangle ABC right angled at A. Prove that $4(BL^2+CM^2) = 5BC^2$

(20) In fig., the line segment XY is parallel to side AC of $\triangle ABC$ and it divides the triangle into two parts of equal areas. Find the ratio $\frac{AX}{AB}$



CREATIVE WORK

Sr.No	Topic / Discription:	R.No/Section Wise ~~Distribution~~.				
		XA	XB	XC	XD	XE
(i)	To prepare a model for similar triangles of different dimensions by using wood / Cardboard sheet	1-8	9-16	17-24	25-32	33 and onward
(ii)	To prepare a model of "History of Mathematician by pasting picture and write their bio-graphy on Plywood sheet / Cardboard sheet.	9-16	17-24	25-32	33 and onward	1-8
(iii)	To prepare a model of basic formula's of trigonometry ~~To show~~ [Define T-ratio's involving the sides of a right triangle] (Hint: Refer topic 8.2 from NCERT Book)	17-24	25-32	33 and onward	1-8	9-16
(iv)	To prepare a model / Chart of to show values of T-ratio's of some specefic angles (Hint: Refer topic 8.3 of NCERT Maths text book for Class X)	25-32	33 and onward	1-8	9-16	17-24
(v)	To prepare a model / Chart based T-ratio's of Complementary Angles (Hint: Refer topic 8.4 of NCERT Maths text book for Class X)	33 and onward	1-8	9-16	17-24	25-32