

Session 2018-19

Modern Public School, Sec-37, Faridabad

Holiday Homework

Class - X Maths

Solve the following questions

1. Use Euclid's division algorithm to find the HCF of following

(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 $\sqrt{2}, -\sqrt{2}$.

4. Find the zeroes of the following quadratic polynomials and verify the relation between the zeroes and coefficients of the polynomial

(i) $3\sqrt{5}x^2 + 13x + 6\sqrt{2}$

(ii) $25p^2 - 15p + 2$

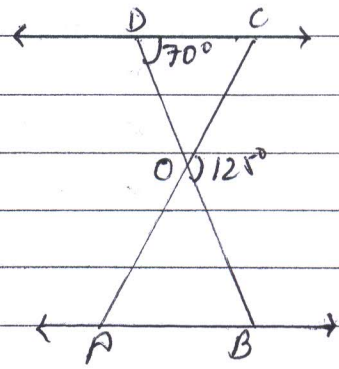
5. If α, β are two zeroes of polynomial $25p^2 - 15p + 2$, find a quadratic polynomial whose zeroes are $\frac{1}{\alpha}$ and $\frac{1}{\beta}$.6. Divide $(2x^2 + x - 20)$ by $(x + 3)$ and verify the result by division algorithm.7. If d is the HCF of 45 and 27, find x, y satisfying $d = 27x + 45y$ 8. For what value of p will the following system of equations have no solution :-

$$(2p-1)x + (p-1)y = 2p+1, y + 3x - 1 = 0$$

~~X~~

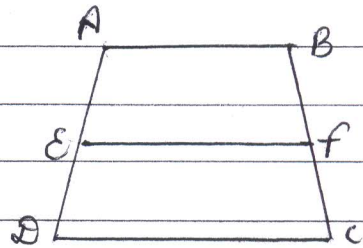
9. Solve the following system of linear equations by cross multiplication method
- $$\begin{aligned} &2(ax+by) + (a+4b) = 0 \\ &2(bx+ay) + (b-4a) = 0 \end{aligned}$$
10. Draw the graph of $2x+y=6$ and $2x-y+2=0$. Shade the region bounded by these lines with x -axis. Find the area of shaded region.
11. The sum of digits of a 2 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 per 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. In the adjoining figure,
 $\triangle ODC \sim \triangle OBA$
 $\angle BOC = 125^\circ$ and $\angle CDO = 70^\circ$
 find $\angle DOC$, $\angle OCD$ and $\angle OAB$



19. In adjoining fig, if $EF \parallel DC \parallel AB$,
 Prove that

$$\frac{ED}{AE} = \frac{FC}{BF}$$



20. AD is the bisector of $\angle A$ of a $\triangle ABC$ meeting BC in D. Prove that $\frac{AB}{AC} = \frac{BD}{DC}$

CREATIVE WORK

R.No. / Sectionwise Distribution

	A	B	C	D	E
a) Any one of the following					
(i) To prepare a model for similar triangles of different dimensions by using wood / cardboard sheet	1-14	15-28	29-50 on	1-14	15-28
(ii) To prepare a model of "History of mathematician" by pasting picture and write their biography on plywood sheet / cardboard sheet.	15-28	29-50 on	1-14	15-28	...
(iii) Prepare a working model or chart of formula's from any one of following topics	29-50 on	1-14	15-28	29-50 on	1-14
a) Polynomial					
b) Triangles					
c) Linear Equation in two variables					

Note - A class test will be taken on application based after summer vacation