

HOLIDAYS HOME WORK (MATHS)

CLASS X (2017-2018)

- 1 prepare a working model showing the zeroes of a cubic or a quadratic polynomial .
- 2 Prepare a Factor Tree of any number.
- 3 prepare a crossword by using concept of Maths, on A₄ Size
- 4 Do the following assignment

Assignment

1. On comparing the ratios $a_1/a_2, b_1/b_2, c_1/c_2$,find out whether the following pair of equations are consistent ,or inconsistent. $5x-3y=11, -10x+6y=-22$.
2. Aftab tells his daughter , "Seven years ago, I was seven times as old as you were then Also, three years from now , I shall be three times as old as you will be . Represent this situation algebraically.
3. If we add 1 to the numerator and subtract 1 from the denominator, a fraction reduces to 1. It becomes $\frac{1}{2}$ if we only add 1 to the denominator. What is the fraction ?
4. Use elimination method to find all possible solutions of the following pair of linear equations;
 $2x+3y=8, 4x+6y=7$
5. For what values of k will the following pair of linear equations have infinitely many solutions?
 $kx+3y-(k-3)=0, 12x+ky-k=0$.
6. The difference between two numbers is 26 and one number is three times the other. Find numbers.
7. Draw the graphs of the equations $x-y+1=0, 3x+2y-12=0$. Determine the coordinates of the vertices of the triangle formed by these lines and the x- axis and shade the triangular region.
8. Places A and B are 100 km apart on a highway. One car starts from A and another from B at the same time . If the cars travel in the same direction at different speeds. They meet in 5 hours. If they travel towards each other, they meet in 1 hour. What are the speeds of the two cars.
9. Solve the following pairs of equations by reducing them to a pair of linear equations

$$+ \frac{1}{3x-y} = \frac{3}{4} ;$$

$$\frac{1}{2(3x+y)} + \frac{1}{2(3x-y)} = -1/8$$

$$\frac{1}{3x+y}$$

10. Plot graph of $2x-3y=12$ and $x-2y=15$ on the same graph paper .And shade the area formed by these lines and X-axis.
11. What must be added to the polynomial $f(x) = x^4+2x^3-2x^2+x-1$ so that the resulting polynomial is exactly divisible by x^2+2x-3 .
12. What must be subtracted to the polynomial $f(x) = x^4+2x^3-2x^2+x-1$ so that the resulting polynomial is exactly divisible by x^2+2x-3 .
13. Find the zeros of the polynomial x^3+3x^2-2x-6 , if two of its zeros are $\sqrt{2}$ and $-\sqrt{2}$
14. Obtain all the zeros of $f(x) = x^3+13x^2+32x+20$ if one of the zero is -2 Type equation here.
15. If a and b are the zeros of the polynomial x^2-x-4 find the value of $1/a + 1/b-ab$
16. If a and b are the zeros of the polynomial $4x^2-5x-1$ then find the value of $a^2b + ab^2$
17. Prove that $\sqrt{5} + \sqrt{3}$ is irrational
18. A circular field has the circumference of 360km. Three cyclists start together and can ride 48,60,72km a day, round the field.When will they meet again?
19. Find the HCF of 592 and 252 using Euclid Divison Lemma
20. Find the largest number which divides 615 and 963 leaving a remainder 6 in each case.