DELHI PUBLIC SCHOOL, JAMMU

ASSIGNMENT (2017-2018)

IST PREBOARD

SUBJECT MATH CLASS X

1. Show that one and only one out if n, n+2, n+4 is divisible by 3, Where n is any +ve integer
2. The sum of three numbers of an AP is 3 and the product of the first and third is-35 Find the three.
3. Show that (5- $\sqrt[2]{3}$) is Irrational No.
4. Draw two concentric circles of radius 4cm and 8cm .Construct a pair of tangents from outer circle to inner circle.
5. State and prove thale's theorem.
6. Two pipes running together can fill a tank in 6 min.If one pipe takes 5 min.more than the other, find the time taken by each pipe to fill tank.
7. Divide $(6+19x+x^2-6x^3)$ by $(2+5x-3x^2)$
8. Draw the graph of x^2-3x-4
9. Find all the zeros of the polynomial $(2x^4-11x^3+7x^2+13x-7)$ it being that two of its zeros are $(3+\sqrt{2})$ and $(3-\sqrt{2})$
10. Solve for x and y $\frac{bx}{a} - \frac{ay}{b}+a+b=0$

    $bx- ay+2ab = 0$
11. Solve for a and y $\frac{a}{x} - \frac{b}{y} = 0, \frac{ab^2}{b} + \frac{a^2b}{b}=a^2+b^2$
12. A two digit number is such that the product of its digit is 14. If 45 is added to the number the digits interchange their places find the number
13. 8 men and 12 boys can finish a piece of work is 5 days while 6 men and 8 boys can finish it is 7 days find the time taken by 1 man alone and that by 1 boy alone to finish the work.
14. If the circumference of a circle is π units more than the diameter of circle, find the diameter of circle.
15. $Prove\ that - tan\frac{A}{2} + tan\frac{B}{2} = cot\frac{C}{2} + cot\frac{D}{2}$