VISWABHARATI - GUDIVADA

WORK SHEET - 3

Chapters : Real Numbers, Polynomials, Progressions

Class: X **Time: 75min**

Subject: Mathematics **Marks: 30**

Name_____ Class/Sec: _____ Roll No: _____

Answer the following Questions. **15 × 2 = 30**

1. If $2^{x+1} = 3^{1-x}$ then find the value of x
2. Show that $3\sqrt{2}$ is an irrational
3. Without actual division find the decimal form of following

   i) $\frac{15}{16}$ ii) $\frac{143}{220}$
4. Using Euclid division lemma to show that odd positive integer of form 6q+1, 6q+3 or 6q+5 for some integer q
5. Find x, if $2\log 5 + \frac{1}{2}log 9 - log 3 = logx$
6. Find the zeroes of the following polynomials

   i) $x^3 - 5x^2 + 6x$ ii) $x^2 - 5$
7. Find the zeroes of given polynomial and verify relation between zeroes and coefficients $6x^2 - 3 - 7x$
8. Show that first polynomial is a factor of second polynomial

   $x^2 + 3x + 1$, $3x^4 + 5x^3 - 7x^2 + 2x + 2$
9. Draw rough graphs of quadratic polynomial have

   i) two zeroes ii) one zero iii) no zeroes
10. Find a quadratic polynomial whose zeroes are given below $\frac{1}{4}, -1$
11. Check whether 301 is a term of the list of numbers 5, 11, 17, 23, ……
12. Find 12^{th} term of a G.P. whose 8^{th} term is 192 and the common ratio is 2
13. Which of the following list of numbers form GP

    i) $\frac{1}{64}, -\frac{1}{32}, \frac{1}{8}$, ……..

    ii) $\frac{1}{\sqrt{2}}, -2, \frac{8}{\sqrt{2}}$,……..
14. It is given that $a_3 = 15$, $S_{10} = 125$ find d and a_{10}
15. In a flower bed, there are 23 rose plants in the first row, 21 in the second, 19 in the third and so on there are 5 rose plants in the last row. How many rows are there in the flower bed.