WANDOOR GANITHAM - S S L C UNIT TEST 2021

7.10AE   **POLYNOMIALS**   Total Score : 20

Time : 40 minutes

1. $p(x)$ is a second degree polynomial , $p(1)=0, p(3)=0$ and the coefficient of x^2 is 1

   a) Write a factor of $p(x)$?

   b) Write $p(x)$ as the product of two first degree polynomials ?   (2)

2. Consider the polynomial $p(x)=x^2-11x+8$

   a) Find $p(2)$?

   b) Find the number to be added to $p(x)$ to get a polynomial for which $x-2$ is a

     factor ?   (2)

3. Consider the polynomial $p(x)=ax^2-bx+c$

   a) Find $p(1)$?

   b) If $x-1$ is a factor of $p(x)$, prove that $b=a+c$?   (2)

4. Consider the polynomial $p(x)=x^2-25$

   a) Find $p(5)$?

   b) Write $p(x)$ as the product of two first degree polynomials ?

   c) Write $49x^2-25$ as the product of two first degree polynomials ?   (3)

5. Consider the polynomial $p(x)=x^2-7x+k$

   a) Find $p(3)$?

   b) What is the value of k if $x-3$ is a factor of $p(x)$?

   c) Write $p(x)$ as the product of two first degree polynomials if one of its factor is

     $x-3$?   (3)

6. Consider the polynomial $\quad p(x) = x^2 - 9x + 18$

  a) Find $\quad p(1)$ **?**

  b) Write a factor of $\quad p(x) - p(1)$ **?**

  c) Write $\quad p(x) - p(1) \quad$ **as the product of two first degree polynomials ?**   **(4)**

7. If $\quad x^2 - 14x + 48 = (x - a)(x - b)$

  a) What is the value of $\quad a + b \quad$ **?**

  b) What is the value of $\quad ab \quad$ **?**

  c) Write a $\quad x^2 - 14x + 48 \quad$ **s the product of two first degree polynomials ?**   **(4)**