WANDOOR GANITHAM – S.S.L.C STUDY MATERIAL 2021

FOCUS AREA - QUESTION BANK - POLYNOMIALS (2)

1	***If*** $p(x)=x^2-4x+5$ **a) *Find*** $p(1)$ **?** **b) *Check whether*** $x-4$ ***is a factor of*** $p(x)$ ***or not ?*** **c) *Write*** $p(x)$ ***as the product of two first degree polynomials ?***
2	***If*** $p(x)=x^2-8x+15$ **a) *Find*** $p(3)$ **?** **b) *Check whether*** $x-5$ ***is a factor of*** $p(x)$ ***or not ?*** **c) *Write*** $p(x)$ ***as the product of two first degree polynomials ?***
3	***If*** $p(x)=x^2-11x+30$ **a) *Find*** $p(5)$ **?** **b) *Check whether*** $x-6$ ***is a factor of*** $p(x)$ ***or not ?*** **c) *Write*** $p(x)$ ***as the product of two first degree polynomials ?***
4	***If*** $p(x)=x^2+x-2$ **a) *Find*** $p(1)$ **?** **b) *Check whether*** $x+2$ ***is a factor of*** $p(x)$ ***or not ?*** **c) *Write*** $p(x)$ ***as the product of two first degree polynomials ?***
5	***If*** $p(x)=x^2+2x-8$ **a) *Find*** $p(2)$ **?** **b) *Check whether*** $x+4$ ***is a factor of*** $p(x)$ ***or not ?*** **c) *Write*** $p(x)$ ***as the product of two first degree polynomials ?***

6	***If*** $p(x)=x^2-3x-4$ **a) *Find*** $p(4)$ **?** **b) *Check whether*** $x+1$ ***is a factor of*** $p(x)$ ***or not*** **?** **c) *Write*** $p(x)$ ***as the product of two first degree polynomials*** **?**
7	***If*** $p(x)=x^2-2x-15$ **a) *Find*** $p(5)$ **?** **b) *Check whether*** $x+3$ ***is a factor of*** $p(x)$ ***or not*** **?** **c) *Write*** $p(x)$ ***as the product of two first degree polynomials*** **?**
8	$p(x)$ ***is a second degree polynomial ,*** $p(1)=0, p(2)=0$ ***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 ?***
9	$p(x)$ ***is a second degree polynomial ,*** $p(2)=0, p(3)=0$ ***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 ?***
10	$p(x)$ ***is a second degree polynomial ,*** $p(4)=0, p(7)=0$ ***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 ?***
11	$p(x)$ ***is a second degree polynomial ,*** $p(1)=0, p(-5)=0$ ***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 ?***
12	$p(x)$ ***is a second degree polynomial ,*** $p(3)=0, p(-4)=0$ ***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 ?***

13	$p(x)$ ***is a second degree polynomial ,*** $p(-3)=0, p(-5)=0$ ***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 ?***
14	$p(x)$ ***is a second degree polynomial ,*** $p(-1)=0, p(-2)=0$ ***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 ?***
15	***If*** $p(x)=x^2-kx+10$ **a)** ***Find*** $p(2)$ **?** **b)** ***What is the value of*** k ***if*** $x-2$ ***is a factor of*** $p(x)$ **?** **c)** ***Write*** $p(x)$ ***as the product of two first degree polynomials if one of its factor is*** $x-2$ **?**
16	***If*** $p(x)=x^2-kx+18$ **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*** $x-3$ **?**
17	***If*** $p(x)=x^2-kx+35$ **a)** ***Find*** $p(5)$ **?** **b)** ***What is the value of*** k ***if*** $x-5$ ***is a factor of*** $p(x)$ **?** **c)** ***Write*** $p(x)$ ***as the product of two first degree polynomials if one of its factor is*** $x-5$ **?**

18	***If*** $p(x)=kx^2-7x+3$ **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*** $x-3$ **?**
19	***If*** $p(x)=3x^2+kx-2$ **a) *Find*** $p(2)$ **?** **b) *What is the value of*** k ***if*** $x-2$ ***is a factor of*** $p(x)$ **?** **c) *Write*** $p(x)$ ***as the product of two first degree polynomials if one of its factor is*** $x-2$ **?**
20	***If*** $p(x)=x^2+5x+k$ **a) *Find*** $p(-1)$ **?** **b) *What is the value of*** k ***if*** $x+1$ ***is a factor of*** $p(x)$ **?** **c) *Write*** $p(x)$ ***as the product of two first degree polynomials if one of its factor is*** $x+1$ **?**
21	***If*** $p(x)=x^2+10x+k$ **a) *Find*** $p(-1)$ **?** **b) *What is the value of*** k ***if*** $x+2$ ***is a factor of*** $p(x)$ **?** **c) *Write*** $p(x)$ ***as the product of two first degree polynomials if one of its factor is*** $x+2$ **?**
22	***If*** $p(x)=x^2+5x+k$ **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*** $x+3$ **?**

23	***If*** $p(x)=x^2-9x+6$ **a) *Find*** $p(1)$ **?** **b) *Find the number to be added to*** $p(x)$ ***to get a polynomial for which*** $x-1$ ***is a factor ?***
24	***If*** $p(x)=x^2-7x+9$ **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 ?***
25	***If*** $p(x)=x^2-8x$ **a) *Find*** $p(3)$ **?** **b) *Find the number to be added to*** $p(x)$ ***to get a polynomial for which*** $x-3$ ***is a factor ?***
26	***If*** $p(x)=3x^2-5x$ **a) *Find*** $p(1)$ **?** **b) *Find the number to be added to*** $p(x)$ ***to get a polynomial for which*** $x-1$ ***is a factor ?***
27	***If*** $p(x)=x^2-7x+13$ **a) *Find*** $p(2)$ **?** **b) *Find the number to be subtracted from*** $p(x)$ ***to get a polynomial for which*** $x-2$ ***is a factor ?***
28	***If*** $p(x)=x^2+6x+5$ **a) *Find*** $p(1)$ **?** **b) *Find the number to be subtracted from*** $p(x)$ ***to get a polynomial for which*** $x-1$ ***is a factor ?***

29	***If*** $p(x)=x^2+3x$ **a) *Find*** $p(4)$ **?** **b) *Find the number to be subtracted from*** $p(x)$ ***to get a polynomial for which*** $x-4$ ***is a factor*** **?**
30	***If*** $p(x)=5x^2+3x$ **a) *Find*** $p(2)$ **?** **b) *Find the number to be subtracted from*** $p(x)$ ***to get a polynomial for which*** $x-2$ ***is a factor*** **?**
31	***If*** $p(x)=x^2-6x+5$ **a) *Find*** $p(1)$ ***?*** **b) *Write*** $p(x)$ ***as the product of two first degree polynomials ?***
32	***If*** $p(x)=x^2+3x-18$ **a) *Find*** $p(3)$ ***?*** **b) *Write*** $p(x)$ ***as the product of two first degree polynomials ?***
33	***If*** $p(x)=x^2+2x-15$ **a) *Find*** $p(5)$ ***?*** **b) *Write*** $p(x)$ ***as the product of two first degree polynomials ?***
34	***If*** $p(x)=x^2+5x-14$ **a) *Find*** $p(2)$ ***?*** **b) *Write*** $p(x)$ ***as the product of two first degree polynomials ?***
35	***If*** $p(x)=2x^2-5x+3$ **a) *Find*** $p(1)$ ***?*** **b) *Write*** $p(x)$ ***as the product of two first degree polynomials ?***

36	***If*** $p(x)=3x^2-2x-8$ **a) *Find*** $p(2)$ ***?*** **b) *Write*** $p(x)$ ***as the product of two first degree polynomials ?***
37	***If*** $p(x)=x^2-4$ **a) *Find*** $p(2)$ ***?*** **b) *Write*** $p(x)$ ***as the product of two first degree polynomials ?*** **c) *Write*** $9x^2-4$ ***as the product of two first degree polynomials ?***
38	***If*** $p(x)=x^2-100$ **a) *Find*** $p(10)$ ***?*** **b) *Write*** $p(x)$ ***as the product of two first degree polynomials ?*** **c) *Write*** $49x^2-100$ ***as the product of two first degree polynomials ?***
39	***If*** $p(x)=x^2-25$ **a) *Find*** $p(5)$ ***?*** **b) *Write*** $p(x)$ ***as the product of two first degree polynomials ?*** **c) *Write*** $16x^2-25$ ***as the product of two first degree polynomials ?***
40	***If*** $p(x)=(x-2)(x-6)$ **a) *Find*** $p(2)$ ***?*** **b) *Find the number added to*** $p(x)$ ***to get a perfect square ?***
41	***If*** $p(x)=(x-1)(x-5)$ **a) *Find*** $p(1)$ ***?*** **b) *Find the number added to*** $p(x)$ ***to get a perfect square ?***
42	***If*** $p(x)=(x-3)(x-7)$ **a) *Find*** $p(3)$ ***?*** **b) *Find the number added to*** $p(x)$ ***to get a perfect square ?***

43	***If*** $p(x)=(x+2)(x-6)$ **a) *Find*** $p(6)$ ***?*** **b) *Find the number added to*** $p(x)$ ***to get a perfect square ?***
44	***If*** $p(x)=(x+3)(x-7)$ **a) *Find*** $p(7)$ ***?*** **b) *Find the number added to*** $p(x)$ ***to get a perfect square ?***
45	***If*** $p(x)=(x-5)(x+1)$ **a) *Find*** $p(5)$ ***?*** **b) *Find the number added to*** $p(x)$ ***to get a perfect square ?***
46	***If*** $p(x)=(x-2)(x-8)+5$ **a) *Find*** $p(3)$ ***?*** **b) *Check whether*** $x-7$ ***is a factor of*** $p(x)$ ***or not ?*** **c) *Write*** $p(x)$ ***as the product of two first degree polynomials ?***
47	***If*** $p(x)=(x-1)(x-7)+5$ **a) *Find*** $p(2)$ ***?*** **b) *Check whether*** $x-6$ ***is a factor of*** $p(x)$ ***or not ?*** **c) *Write*** $p(x)$ ***as the product of two first degree polynomials ?***
48	***If*** $p(x)=(x-3)(x-9)+5$ **a) *Find*** $p(4)$ ***?*** **b) *Check whether*** $x-8$ ***is a factor of*** $p(x)$ ***or not ?*** **c) *Write*** $p(x)$ ***as the product of two first degree polynomials ?***
49	***If*** $p(x)=(x-1)(x+7)-20$ **a) *Find*** $p(3)$ ***?*** **b) *Check whether*** $x+9$ ***is a factor of*** $p(x)$ ***or not ?*** **c) *Write*** $p(x)$ ***as the product of two first degree polynomials ?***

50	***If*** $p(x)=(x-5)(x+1)-7$ **a) *Find*** $p(6)$ **?** **b) *Check whether*** $x+2$ ***is a factor of*** $p(x)$ ***or not ?*** **c) *Write*** $p(x)$ ***as the product of two first degree polynomials ?***
51	$p(x)=x^{100}-1$ **a) *Find*** $p(1)$ **?** **b) `*Check whether*** $x-1$ ***is a factor of*** $p(x)$ ***or not ?***
52	$p(x)=x^{25}-1$ **a)** $p(1)$ **?** **b) *Check whether*** $x-1$ ***is a factor of*** $p(x)$ ***or not ?***
53	$p(x)=x^{11}+1$ **a)** $p(1)$ **?** **b) *Check whether*** $x+1$ ***is a factor of*** $p(x)$ ***or not ?***
53	$p(x)=x^{99}+1$ **a)** $p(1)$ **?** **b) *Check whether*** $x+1$ ***is a factor of*** $p(x)$ ***or not ?***
55	***If*** $p(x)=x^2+5x+6$ **a) *Find*** $p(1)$ **?** **b) *Write a factor of*** $p(x)-p(1)$ **?**
56	***If*** $p(x)=x^2+10x+24$ **a) *Find*** $p(2)$ **?** **b) *Write a factor of*** $p(x)-p(2)$ **?**

57	***If*** $p(x)=x^2+9x+20$ **a) *Find*** $p(4)$ **?** **b) *Write a factor of*** $p(x)-p(4)$ ***?***
58	***If*** $p(x)=4x^2+9x+2$ **a) *Find*** $p(2)$ **?** **b) *Write a factor of*** $p(x)-p(2)$ ***?***
59	***If*** $p(x)=x^2-7x+12$ **a) *Find*** $p(1)$ **?** **b) *Write a factor of*** $p(x)-p(1)$ ***?*** **c) *Write*** $p(x)-p(1)$ ***as the product of two first degree polynomials ?***
60	***If*** $p(x)=x^2+3x+2$ **a) *Find*** $p(1)$ **?** **b) *Write a factor of*** $p(x)-p(1)$ ***?*** **c) *Write*** $p(x)-p(1)$ ***as the product of two first degree polynomials ?***
61	***If*** $p(x)=x^2+5x+6$ **a) *Find*** $p(2)$ **?** **b) *Write a factor of*** $p(x)-p(2)$ ***?*** **c) *Write*** $p(x)-p(2)$ ***as the product of two first degree polynomials ?***
62	***If*** $p(x)=x^2+9x+8$ **a) *Find*** $p(1)$ **?** **b) *Write a factor of*** $p(x)-p(1)$ ***?*** **c) *Write*** $p(x)-p(1)$ ***as the product of two first degree polynomials ?***
63	***If*** $p(x)=x^2-11x+30$ **a) *Find*** $p(3)$ **?** **b) *Write a factor of*** $p(x)-p(3)$ ***?*** **c) *Write*** $p(x)-p(3)$ ***as the product of two first degree polynomials ?***

64	***If*** $p(x)=x^2-13x+40$ **a) *Find*** $p(2)$ **?** **b) *Write a factor of*** $p(x)-p(2)$ ***?*** **c) *Write*** $p(x)-p(2)$ ***as the product of two first degree polynomials ?***
65	***If*** $p(x)=x^2-10x+16$ **a) *Find*** $p(1)$ **?** **b) *Write a factor of*** $p(x)-p(1)$ ***?*** **c) *Write*** $p(x)-p(1)$ ***as the product of two first degree polynomials ?***
66	***If*** $x^2-12x+16=(x-a)(x-b)$ **a) *What is the value of*** $a+b$ **?** **b) *What is the value of*** ab **?** **c) *Write*** $x^2-12x+16$ ***as the product of two first degree polynomials*** **?**
67	***If*** $x^2-16x+36=(x-a)(x-b)$ **a) *What is the value of*** $a+b$ **?** **b) *What is the value of*** ab **?** **c) *Write*** $x^2-16x+36$ ***as the product of two first degree polynomials*** **?**
68	***If*** $x^2-15x+54=(x-a)(x-b)$ **a) *What is the value of*** $a+b$ **?** **b) *What is the value of*** ab **?** **c) *Write*** $x^2-15x+54$ ***as the product of two first degree polynomials*** **?**
69	***If*** $x^2+10x+24=(x-a)(x-b)$ **a) *What is the value of*** $a+b$ **?** **b) *What is the value of*** ab **?** **c) *Write*** $x^2+10x+24$ ***as the product of two first degree polynomials*** **?**

70 ***If*** $x^2+3x-18=(x-a)(x-b)$

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

b) ***What is the value of*** ab **?**

c) ***Write*** $x^2+3x-18$ ***as the product of two first degree polynomials*** **?**

71 ***If*** $x^2+5x-14=(x-a)(x-b)$

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

b) ***What is the value of*** ab **?**

c) ***Write*** $x^2+5x-14$ ***as the product of two first degree polynomials*** **?**

72 ***Write the following second degree polynomials as the product of first degree polynomials .***

a) x^2+4x+3 **b)** $x^2+14x+48$ **c)** $x^2+6x-16$

d) $x^2-8x+12$ **e)** $x^2-10x+24$ **f)** $x^2-2x-45$

g) x^2+5x+6 **h)** $x^2+11x+18$ **i)** $x^2+3x-40$

j) $x^2-7x+12$ **k)** $x^2-9x+20$ **l)** $x^2-15x-34$

EXTRA QUESTIONS

73 $x-2$ ***and*** $x-3$ ***are the factors of*** $p(x)=x^2+mx+n$

a) ***Which among the following is equal to*** $p(2)$ **?**

(2 , 3 , 1 , 0 **)**

b) ***Prove that*** $3m+n=-9$ **?**

c) ***What are the values of m and n ?***

74 ***If*** $p(x)=lx^2+mx+n$

a) ***If*** $p(1)$ **?**

b) ***If*** $x+1$ ***is a factor of*** $p(x)$ ***, prove that*** $m=l+n$ **?**

c) ***Write second degree polynomial whose factor is*** $x+1$ **?**

75	***If*** x ***is a natural number*** **a)** ***What number is to be added to*** x^2+10x ***to get a perfect square ?*** **b)** ***If*** $x^2+mx+36$ ***is a perfect square ,which number is*** $'m'$ **?** **c)** ***If*** x^2+mx+n ***is a perfect square , prove that*** $m^2=4n$ **?** **d)** ***Write a second degree polynomial which is a perfect square and having a factor*** $x+2$ **?**
76	***If*** x ***is a natural number*** **a)** ***What number is to be added to*** x^2-8x ***to get a perfect square ?*** **b)** ***If*** $x^2-mx+36$ ***is a perfect square ,which number is*** $'m'$ **?** **c)** ***If*** x^2-mx+n ***is a perfect square , prove that*** $m^2=4n$ **?** **d)** ***Write a second degree polynomial which is a perfect square and having a factor*** $x-3$ **?**
77	***The solution of the equation*** $p(x)=0$ ***are*** 2 ***and*** 3 **.** **a)** ***Write one factor of*** $p(x)$ **?** **b)** ***Write*** $p(x)$ ***as the product of two first degree polynomials ?***
78	***The solution of the equation*** $p(x)=0$ ***are*** 5 ***and*** -4 **.** **a)** ***Write one factor of*** $p(x)$ **?** **b)** ***Write*** $p(x)$ ***as the product of two first degree polynomials ?***
79	***The solution of the equation*** $p(x)=0$ ***are*** -3 ***and*** -7 **.** **a)** ***Write one factor of*** $p(x)$ **?** **b)** ***Write*** $p(x)$ ***as the product of two first degree polynomials ?***