INDIAN SCHOOL AL WADI AL KABIR
Department of Mathematics
Worksheet-1
POLYNOMIALS
Class X **24/04/2022**

	Questions of 1 mark each.
1	If one of the zeroes of the quadratic polynomial $(k-1)x^2 + kx + 1$ is (-3), then find the value of k
2	The sum of the zeroes of the quadratic polynomial $3x^2 - kx + 6$ is 3, then find the value of k
3	Find the quadratic polynomial whose zeroes are $\sqrt{2}$ and $2\sqrt{2}$.
4	If zeroes of the polynomial $x^2 + 4x + 2a$ are α and $\frac{2}{\alpha}$, then the value of a is
5	If p and q are the zeroes of the polynomial $p(x) = 2x^2 - 7x + 3$, then the value of $p^2 + q^2$ is
	Questions of 2 marks each
6	If α and β are the zeroes of the polynomial $f(x) = 2x^2 - 4x + 5$ then find the value of $\alpha^2 + \beta^2$
7	If α, β are the zeroes of the polynomial $f(x) = x^2 - 5x + k$ such that $\alpha - \beta = 1$, find the value of k.
8	If α and β are the zeroes of the quadratic polynomial $f(x) = x^2 - p(x+1) - c$, show that $(\alpha + 1)(\beta + 1) = 1 - c$
9	Find the value of 'k' such that the quadratic polynomial $x^2 - (k+6)x + 2(2k+1)$ has sum of the zeros is half of their product
10	Find the zeros of the polynomial $p(x) = 4\sqrt{3}x^2 + 5x - 2\sqrt{3}$ and verify the relationship between the zeros and its coefficients
11	Find the value of 'k' so that the zeroes of the quadratic polynomial $3x^2 - kx + 14$ are in the ratio 7:6
	Questions of 3 marks each
12	If the Zeroes of the Quadratic Polynomial $6x^2 - 3 - 7x$ are α and β then find the quadratic polynomial whose zeroes are $\frac{\alpha}{\beta}$ and $\frac{\beta}{\alpha}$
13	If α, and β are the zeros of the polynomial $f(x) = x^2 + px + q$, then form a quadratic polynomial whose zeros are $(\alpha + \beta)^2$ and $(\alpha - \beta)^2$
14	If one zero of the polynomial $3x^2 - 8x + 2k + 1$ is seven times the other, then find k
15	If the Zeroes of the Quadratic Polynomial $x^2 + 4x + 3$ are α and β then find the quadratic polynomial whose zeroes are $1 + \frac{\alpha}{\beta}$ and $1 + \frac{\beta}{\alpha}$

Answers	**1**	$\frac{4}{3}$	**2**	9	**3.**	$x^2 - 3\sqrt{2}x + 4$	**4**	1
	5	$\frac{37}{4}$	**6**	-1	**7**	6	**8**	
	9	5	**10**	$x = \frac{\sqrt{3}}{4}$ $x = -\frac{2}{\sqrt{3}}$	**11**	117	**12**	$18x^2 + 85x + 1$
	13	$x^2 - 2p^2x - 4qx + p^4 - 4p^2q$	**14**	2/3	**15**	$3x^2$ - 16x + 16		