INDIAN SCHOOL NIZWA - WORKSHEET

2. POLYNOMIALS

Name: _____ Date:_____ Class: IX Sec:

1.	What is the degree of the polynomial
2.	Find the degree of $x^2 - 3x + 4x^3 + 4$
3.	Which of the following is not a polynomial: $a)\ \sqrt{2}x - \frac{5}{x} + 3$ b) -3 c) $5x^2 - 4x^{-1} + 3$ d) $\sqrt{y} - 3y - 1$ e) $x^2 - 3x + 4$
4.	Find the product $\left(x - \frac{1}{x}\right)\left(x + \frac{1}{x}\right)\left(x^2 + \frac{1}{x^2}\right)$
5.	If $\frac{x}{y} + \frac{y}{x} = -1$, then find the value of $x^3 - y^3$.
6.	One of the factors of $(1 + 3y)^2 + (9y^2 - 1)\ is$ a) $1 - 3y$ b) $3 - y$ c) $3y + 1$ d) $y - 3$
7.	One of the factors of $(x^3 - 1) - (x - 1)is$ a) $x^2 + 1$ b) $x^2 - 1$ c) $x - 1$ d) $x + 4$
8.	If a+b+c=0 then of $a^3 + b^3 + c^3 =$ _____.

9.	When p(x) is divided by ax-b, then the remainder is _____. a) $P(a+b)$ b) $P(-\frac{b}{a})$ c) $p\left(\frac{a}{b}\right)$ d) $p\left(\frac{b}{a}\right)$
10.	If $x+\frac{1}{x}=4$, then the value of $x^2+\frac{1}{x^2}$.
11.	If the area of the rectangle is $4x^2+4x-3$, then find its possible dimensions.
12.	Factorise $x^3+6x^2+11x+6$.
13.	Factorise $64a^2+96ab+36b^2$.
14.	Simplify $(3x-4y)^3-(3x+4y)^3$.
15.	Factorise : $49a^2+b^2+25c^2-14ab-10bc+70ac$.
16.	Factorise $125x^3+8y^3+z^3-30xyz$.
17.	Find the value of k if $(x+k)$ is a factor of the polynomial $x^3+kx^2-2x+k+4$.
18.	If $(x-3)$ and $\left(x-\frac{1}{3}\right)$ are factors of the polynomial px^2+3x+r, show that p=r.
19.	If $36x^2-b=\left(6x+\frac{1}{5}\right)\left(6x-\frac{1}{5}\right)$, then find the value of b.
20.	Expand using sutiable identity $(2x-3y+z)^2$.
21.	If $x^2+y^2=49$ and $x-y=3$, then find the value of x^3-y^3.
22.	If the polynomial $4y^3-16y^2+ay+7$ is exactly divisible by $y-1$, then find the value of a. Hence factorise the polynomial.