

INTERNATIONAL INDIAN SCHOOL, RIYADH

Mathematics Work Sheet 2017-2018

Ch -2 Polynomials

Class - IX

1. If $4x^3 + 7x^2 - 3x - 6$ is divisible by $x+1$, then find the quotient.
2. Factorise $(p - q)^3 + (q - r)^3 + (r - p)^3$
3. Factorise $3x^3 - 4x^2 - 12x + 16$.
4. Without actual division prove that $x^4 + 2x^3 - 2x^2 + 2x - 3$ is exactly divisible by $x^2 + 2x - 3$.
5. Factorise $27p^3 - \frac{1}{216} - \frac{9}{2}p^2 + \frac{1}{4}p$
6. Find the value of $a^3 - 8b^3 - 36ab - 216$, when $a = 2b + 6$
7. Find the remainder when the polynomial $f(x) = x^3 + 4x^2 - 3x + 5$ is divided by $x + 4$.
8. If $x^2 + px + q = (x+a)(x+b)$ then factorise $x^2 + pxy + qy^2$.
9. If $a+b+c = 6$, find the value of $(2 - a)^3 + (2 - b)^3 + (2 - c)^3 - 3(2-a)(2-b)(2-c)$.
10. If $t^2 - 1$ is a factor of $at^3 + t^2 + 2t + b$, find the values of a and b .
11. Verify if $-\frac{1}{2}$ and $\frac{5}{2}$ are zeroes of the polynomial $4x^3 - 21x - 10$. If yes then factorise the polynomial.
12. Without actually calculating the cubes find the value of $(-1)^3 + (-2)^3 + (-3)^3 + (-4)^3 + 2(5)^3$. Also write the identity used.
13. The polynomials $p(x) = ax^3 - 3x^2 + 4$ and $q(x) = 2x^3 - 5x + a$ when divided by $(x - 2)$ leaves remainder as p and q . If $p - 2q = 4$, then find a .
14. Factorise $a^6 - b^6$.
15. If $a + b + c = 6$ and $ab + bc + ca = 11$, find the value of $a^3 + b^3 + c^3 - 3abc$.

Prepared by IX-X Girls section.