

REVISION SHEET CH 02 IX

Standard: 9th

Subject: Mathematics

- Q1.** Factorize the following expressions:
 $a^3 + 3a^2b + 3ab^2 + b^3 - 8$
- Q2.** Write the following cubes in expanded form:
 $(2a - 3b)^3$
- Q3.** Find the value of a such that $(x - 4)$ is a factors of $5x^3 - 7x^2 - ax - 28$.
- Q4.** Find the remainder when $x^3 - ax^2 + 6x - a$ is divided by $x - a$
- Q5.** Find the remainder when $x^3 + 3x^2 + 3x + 1$ is divided by:
 $5 + 2x$
- Q6.** Factorise the following:
 $27 - 125a^3 - 135a + 225a^2$
- Q7.** Factorise:
 $6x^2 - 11x - 35$
- Q8.** Factorise:
 $\frac{2}{3}x^2 - \frac{17}{3}x - 28$
- Q9.** Factorise:
 $x^2 - 32x - 105$
- Q10.**Evaluate:
 $(103)^3$
- Q11.**Factorise:
 $1 + b^3 + 8c^3 - 6bc$
- Q12.**Factorise:
 $9x^2 + 16y^2 + 4z^2 - 24xy + 16yz - 12xz$
- Q13.**Factorise:
 $16x^4 + 54x$
- Q14.**Using factor theorem, factorize the following polynomials:
 $x^3 + 13x^2 + 32x + 20$
- Q15.**Using factor theorem, factorize the following polynomials:
 $x^3 - 6x^2 + 3x + 10$
- Q16.**If $x^4 + \frac{1}{x^4} = 194$, find $x^3 + \frac{1}{x^3}$, $x^2 + \frac{1}{x^2}$ and $x + \frac{1}{x}$.
- Q17.**Find the integral roots of the polynomial $f(x) = x^3 + 6x^2 + 11x + 6$
- Q18.**If $x^2 + \frac{1}{x^2} = 79$, find the value of $x + \frac{1}{x}$.
- Q19.**Find the values of a and b , if $x^2 - 4$ is a factor of $ax^4 + 2x^3 - 3x^2 + bx - 4$.
- Q20.**If $a + b = 10$ and $ab = 16$, find the value of $a^2 - ab + b^2$ and $a^2 + ab + b^2$.