

**CLASS- 10**

**WORK SHEET-2**

**SUB- MATHEMATICS**

**CHAPTER -2**

---

- 1-Zeroes of  $p(z) = z^2 - 27$  are \_\_\_\_\_ and \_\_\_\_\_.
- 2-If the product of the zeroes of  $x^2 - 3kx + 2k^2 - 1$  is 7, then values of  $k$  are \_\_\_\_\_ and \_\_\_\_\_.
- 3-The value of  $m$ , in order that  $x^2 - mx - 2$  is the quotient where  $x^3 + 3x^2 - 4$  is divided by  $x + 2$  is \_\_\_\_\_.
- 4-If one factor of  $x^3 + 7kx^2 - 4kx + 12$  is  $(x + 3)$ , then the value of  $k$  is \_\_\_\_\_.
- 5-Find the zeroes of the polynomial  $(x - 2)^2 + 4$ .
- 6-Check whether  $3x - 7$  is a factor of polynomial  $6x^3 + x^2 - 26x - 25$  ?
- 7-Find the product of the zeroes of quadratic polynomial  $x^2 - 3$ .
- 8-Find the value of  $m$  if polynomial  $p(x) = 4x^2 - 6x - m$  is exactly divisible by  $x - 3$ .
- 9- $p(x) = g(x) \cdot q(x) + r(x)$ . If degree of  $g(x) = 4$ , degree of  $q(x) = 3$  and degree of  $r(x) = 2$ , then find the degree of  $p(x)$ .
- 10-If the sum of the zeroes of the quadratic polynomial  $ky^2 + 2y - 3k$  is equal to twice their product, find the value of  $k$ .
- 11-If 1 is one of the zeroes of polynomial  $x^2 - x + k$ , then find value of  $k$ .
- 12-Find a quadratic polynomial whose one zero is 5 and product of zeroes is 30.
- 13-Find a quadratic polynomial whose zeroes are  $5 + \sqrt{2}$  and  $5 - \sqrt{2}$
- 14-Find the value of  $b$  for which  $(2x + 3)$  is a factor of  $2x^3 + 9x^2 - x - b$ .
- 15- If  $\alpha, \beta$  are zeroes of the polynomial  $x^2 - 6x + a$ . Find the value of  $a$ , if  $3\alpha + 2\beta = 20$ .
- 16-If one zero of the quadratic polynomial  $2x^2 + px + 4$  is 2, find the other zero. Also, find the value of  $p$ .
- 17-If 2 and 3 are zeroes of polynomial  $3x^2 - 2kx + 2m$ , find the values of  $k$  and  $m$ .
- 18-Divide  $2x^4 - 9x^3 + 5x^2 + 3x - 8$  by  $x^2 - 4x + 1$  and verify the division algorithm.
- 19-Given that  $x - \sqrt{5}$  is factor of the polynomial  $x^3 - 3\sqrt{5}x^2 - 5x + 15\sqrt{5}$ , find all the zeroes of the polynomial.

20-If  $\alpha, \beta$  are zeroes of polynomial  $p(x) = 5x^2 + 5x + 1$  then find the value of

(i)  $\alpha^2 + \beta^2$  (ii)  $\alpha^{-1}$  and  $\beta^{-1}$

21- Obtain all other zeroes of the polynomial  $x^4 - 3\sqrt{2}x^3 + 3x^2 + 3\sqrt{2}x - 4$ , if two of its zeroes are  $\sqrt{2}$  and  $2\sqrt{2}$ .