

MATHEMATICS

CLASS 10

CHAPTER 2: POLYNOMIALS

Practice Multiple Choice Questions (25 Questions with Answer Key)

Q1. If one zero of the quadratic polynomial $x^2 + 3x + k$ is 2, then the value of k is:

- (a) 10 (b) -10
(c) -7 (d) -2

Q2. If the zeroes of the quadratic polynomial $x^2 + (a + 1)x + b$ are 2 and -3, then:

- (a) $a = -7, b = -1$ (b) $a = 5, b = -1$
(c) $a = 2, b = -6$ (d) $a = 0, b = -6$

Q3. The number of polynomials having zeroes -2 and 5 is:

- (a) 1 (b) 2
(c) 3 (d) more than 3

Q4. If one of the zeroes of the quadratic polynomial $ax^2 + bx + c$ is zero, the product of the zeroes is:

- (a) $-c/a$ (b) c/a
(c) 0 (d) $-b/a$

Q5. The zeroes of the quadratic polynomial $x^2 + 99x + 127$ are:

- (a) both positive (b) both negative
(c) one positive and one negative (d) both equal

Q6. If the zeroes of the quadratic polynomial $ax^2 + bx + c, c \neq 0$ are equal, then:

- (a) c and a have opposite signs (b) c and b have opposite signs
(c) c and a have the same sign (d) c and b have the same sign

Q7. If one of the zeroes of a quadratic polynomial of the form $x^2 + ax + b$ is the negative of the other, then it:

- (a) has no linear term and the constant term is negative
(b) has no linear term and the constant term is positive
(c) can have a linear term but the constant term is negative
(d) can have a linear term but the constant term is positive

Q8. Which of the following is not the graph of a quadratic polynomial?

- (a) Parabola opening upwards (b) Parabola opening downwards
(c) Straight line (d) Parabola intersecting x-axis at 2 points

Q9. The degree of a non-zero constant polynomial is:

- (a) 0 (b) 1
(c) 2 (d) Not defined

Q10. If α and β are the zeroes of the polynomial $f(x) = px^2 - 2x + 3p$ and $\alpha + \beta = \alpha\beta$, then p is equal to:

- (a) $-2/3$ (b) $2/3$
(c) $1/3$ (d) $-1/3$

Q11. If α and β are the zeroes of the polynomial $x^2 - 6x + k$, such that $\alpha^2 + \beta^2 = 40$, then the value of k is:

- (a) -2 (b) -4
(c) -6 (d) -8

Q12. If α, β are the zeroes of the polynomial $f(x) = x^2 - p(x + 1) - c$, then $(\alpha + 1)(\beta + 1) = ?$

- (a) $c - 1$ (b) $1 - c$
(c) c (d) $1 + c$

Q13. A quadratic polynomial whose zeroes are -3 and 4 is:

- (a) $x^2 - x + 12$ (b) $x^2 + x + 12$
(c) $(x^2/2) - (x/2) - 6$ (d) $2x^2 + 2x - 24$

Q14. If sum of the zeroes of a quadratic polynomial is 3 and the product of zeroes is -10, the polynomial is:

- (a) $x^2 - 3x - 10$ (b) $x^2 + 3x - 10$
(c) $x^2 - 3x + 10$ (d) $x^2 + 3x + 10$

Q15. If α and β are the zeroes of $x^2 + x - 2$, then the value of $(1/\alpha + 1/\beta)$ is:

- (a) $1/2$ (b) $-1/2$
(c) 1 (d) 2

Q16. The graph of a polynomial $p(x)$ cuts the x-axis at 3 points and touches it at 2 other points. The number of zeroes of $p(x)$ is:

- (a) 2 (b) 3
(c) 5 (d) 6

Q17. The product of the zeroes of the polynomial $2x^2 - 8x + 6$ is:

- (a) 3 (b) 4
(c) -4 (d) -3

Q18. If α, β are zeroes of $2x^2 + 5x + k$ such that $\alpha^2 + \beta^2 + \alpha\beta = 21/4$, then k is:

- (a) 2 (b) -2
(c) 1 (d) 3

Q19. If one zero of the polynomial $(a^2 + 9)x^2 + 13x + 6a$ is reciprocal of the other, then value of a is:

- (a) 3 (b) 6
(c) 9 (d) 2

Q20. The zeroes of the quadratic polynomial $x^2 + 1750x + 175000$ are:

- (a) both positive (b) both negative
(c) one positive and one negative (d) both equal

Q21. If the zeroes of the polynomial $x^2 - px + q$ are double in value to the zeroes of $2x^2 - 5x - 3$, then the value of p is:

- (a) -5 (b) 5
(c) $5/2$ (d) $-5/2$

Q22. Degree of the remainder polynomial $r(x)$ when $p(x)$ is divided by $g(x)$ is always:

- (a) Less than degree of $g(x)$ (b) Greater than degree of $g(x)$
(c) Equal to degree of $g(x)$ (d) Less than or equal to degree of $g(x)$

Q23. If α and β are the zeroes of the polynomial $f(x) = x^2 - 5x + k$ such that $\alpha - \beta = 1$, then k is equal to:

- (a) 4 (b) 5
(c) 6 (d) 12

Q24. A quadratic polynomial can have at most how many zeroes?

- (a) 0 (b) 1
(c) 2 (d) 3

Q25. If $f(x) = 5x^2 + 13x + k$ has zeroes reciprocal to each other, then k is:

- (a) 0 (b) 5
(c) $1/5$ (d) 6

ANSWER KEY & SOLUTIONS GUIDE

Q.No – Ans	Q.No - Ans	Q.No – Ans	Q.No - Ans	Q.No - Ans
Q1: (b) -10	Q6: (c) c and a have the same sign	Q11: (b) -4	Q16: (c) 5	Q21: (b) 5
Q2: (d) $a = 0$, $b = -6$	Q7: (a) has no linear term and the constant term is negative	Q12: (b) $1 - c$	Q17: (a) 3	Q22: (a) Less than degree of $g(x)$
Q3: (d) more than 3	Q8: (c) Straight line	Q13: (c) $(x^2/2) - (x/2) - 6$	Q18: (a) 2	Q23: (c) 6
Q4: (c) 0	Q9: (a) 0	Q14: (a) $x^2 - 3x - 10$	Q19: (a) 3	Q24: (c) 2
Q5: (b) both negative	Q10: (b) $2/3$	Q15: (a) $1/2$	Q20: (b) both negative	Q25: (b) 5