

1. 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)  $a = 0, b = -6$

Answer (d)  $a = 0, b = -6$

2. 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

Answer (b) both negative

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

(a) both negative

(b) one positive and one negative

(c) both positive

(d) both equal

Answer (a) both negative

4. The zeroes of the quadratic polynomial  $x^2 + px + p, p \neq 0$  are

(a) both equal

(b) both cannot be positive

(c) both unequal

(d) both cannot be negative

Answer (b) both cannot be positive

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

(a) 1

(b) 2

(c) 3

(d) more than 3

Answer (d) more than 3

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

(a) 10

(b) -10

(c) 5

(d) -5

Answer (b) -10

7. If 5 is a zero of the quadratic polynomial,  $x^2 - kx - 15$  then the value of  $k$  is

(a) 2

(b) -2

(c) 4

(d) -4

Answer (a) 2

8. If  $\alpha$  and  $\beta$  are the zeroes of the polynomial  $5x^2 - 7x + 2$ , then sum of their reciprocals is:

(a)  $14/25$

(b)  $7/5$

(c)  $2/5$

(d)  $7/2$

Answer (d)  $7/2$

9. Find the quadratic polynomial whose zeros are 2 and -6

(a)  $x^2 + 4x + 12$

(b)  $x^2 - 4x - 12$

(c)  $x^2 + 4x - 12$

(d)  $x^2 - 4x + 12$

Answer (c)  $x^2 + 4x - 12$

10. If the point (5,0), (0,-2) and (3,6) lie on the graph of a polynomial. Then which of the following is a zero of the polynomial?

(a) 5

(b) 6

(c) not defined

(d) -2

Answer (a) 5

11. The number of zeros of a cubic polynomial is

(a) 3

(b) at least 3

(c) 2

(d) at most 3

Answer (d) at most 3

12. The sum and product of the zeroes of the polynomial  $x^2 - 6x + 8$  are respectively

(a)  $-3/2$  and  $-1$

(b) 6 and 8

(c)  $-3/2$  and 1

(d)  $3/2$  and 1

Answer (b) 6 and 8

13. If one of the zeroes of the cubic polynomial  $x^3 + ax^2 + bx + c$  is  $-1$ , then the product of the other two zeroes is

(a)  $b - a + 1$

(b)  $b - a - 1$

(c)  $a - b + 1$

(d)  $a - b - 1$

Answer (a)  $b - a + 1$

14. The zeroes of the quadratic polynomial  $x^2 + kx + k$ ,  $k \neq 0$ ,

(a) cannot both be positive

(b) cannot both be negative

(c) are always unequal

(d) are always equal

Answer (a) cannot both be positive

15. The number of polynomials having zeroes as 4 and 7 is

(a) 2

(b) 3

(c) 4

(d) more than 4

Answer (d) more than 4

16. The zeroes of the quadratic polynomial  $3x^2 - 48$  are

(a) both negative

(b) one positive and one negative

(c) both positive

(d) both equal

Answer (b) one positive and one negative

17. If the zeroes of the quadratic polynomial  $Ax^2 + Bx + C$ ,  $C \neq 0$  are equal, then

(a) A and B have the same sign

(b) A and C have the same sign

(c) B and C have the same sign

(d) A and C have opposite signs

Answer (b) A and C have the same sign

18. If  $x = 2$  and  $x = 3$  are zeros of the quadratic polynomial  $x^2 + ax + b$ , the values of a and b respectively are :

(a) 5, 6

(b) - 5, - 6

(c) - 5, 6

(d) 5, - 6

Answer(c) - 5, 6

19. The graph of the polynomial  $f(x) = 2x - 5$  intersects the x - axis at

(a)  $(5/2, 0)$

(b)  $(-5/2, 0)$

(c)  $(-5/2, 5/2)$

(d)  $(5/2, -5/2)$

Answer (a)  $(5/2, 0)$

20. Sum and the product of zeroes of the polynomial  $x^2 + 7x + 10$  is

(a)  $10/7$  and  $-10/7$

(b)  $7/10$  and  $-7/10$

(c)  $-7$  and  $10$

(d)  $7$  and  $-10$

Answer (c)  $-7$  and  $10$

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1. The number of zeros of a cubic polynomial is

(a) 3

(b) at least 3

(c) 2

(d) at most 3

Answer (d) at most 3

2. The value of  $155 \pmod 9$  is

(a) 0

(b) 1

(c) 2

(d) 3

Answer (c) 2

3. The real number which should be subtracted from the polynomial  $2x^3 + 5x^2 - 14x + 10$  so that the polynomial  $2x - 3$  divides it exactly is

(a) 7

(b)  $-6$

(c) 6

(d) - 7

Answer (a) 7

4. When  $x^3 - 3x^2 + 5x - 3$  is divided by  $x^2 - k$ , the remainder is  $7x + a$ . Then the value of  $k$  is\_\_\_\_\_

(a) 1

(b) 2

(c) 6

(d) 3

Answer (b) 2

5. If  $-\sqrt{5}$  and  $\sqrt{5}$  are the roots of the quadratic polynomial. Find the quadratic polynomial.

(a)  $x-5$

(b)  $(x-5)(x+5)$

(c)  $x^2 - 5$

(d)  $x^2 - 25$

Answer (c)  $x^2 - 5$

6. If  $\alpha, \beta$  are the zeroes of  $f(x) = px^2 - 2x + 3p$  and  $\alpha + \beta = \alpha\beta$  then the value of  $p$  is:

(a)  $1/3$

(b)  $-2/3$

(c)  $2/3$

(d)  $-1/3$

Answer (c)  $2/3$

7. If ' $\alpha$ ' and ' $\beta$ ' are the zeroes of a quadratic polynomial  $x^2 - 5x + b$  and  $\alpha - \beta = 1$ , then the value of ' $b$ ' is

(a) - 5

(b) 6

(c) 5

(d) - 6

Answer (b) 6

8. What value/s can  $x$  take in the expression  $k(x - 10)(x + 10) = 0$  where  $k$  is any real number.

(a) 100, -100

(b) Infinitely many

(c) Depends on value of  $k$

(d) 10, -10

Answer (d) 10, -10

9. The graph of the polynomial  $f(x) = 2x - 5$  intersects the  $x$  - axis at

(a)  $(5/2, 0)$

(b)  $(-5/2, 0)$

(c)  $(-5/2, 5/2)$

(d)  $(5/2, -5/2)$

Answer (a)  $(5/2, 0)$

10. If "1" is a zero of the polynomial  $P(a) = x^2a^2 - 2xa + 3x - 2$ , then  $x = \underline{\hspace{2cm}}$

(a) 2

(b) -2, 1

(c) +2, -2

(d) -2, 0

Answer (b) -2, 1

11. The graph of the polynomial  $ax^2 + bx + c$  is an upward parabola if

(a)  $a > 0$

(b)  $a < 0$

(c)  $a = 0$

(d) None of these

Answer (a)  $a > 0$



12. The sum and product of zeros of a quadratic polynomial are 2 and -15 respectively. The quadratic polynomial is

(a)  $x^2 + 2x - 15$

(b)  $x^2 - 2x + 15$

(c)  $x^2 - 2x - 15$

(d)  $x^2 + 2x + 15$

Answer (c)  $x^2 - 2x - 15$

13. A polynomial of degree 3 is called

(a) a linear polynomial

(b) a quadratic polynomial

(c) a cubic polynomial

(d) a biquadratic polynomial

Answer (c) a cubic polynomial

14. Which of the given is the set of zeroes of the polynomial  $p(x) = 2x^3 + x^2 - 5x + 2$

(a)  $1/2, -1, -2$

(b)  $1/2, 1, -2$

(c)  $-1/2, -1, -2$

(d)  $-1/2, 1, -2$

Answer (b)  $1/2, 1, -2$

15. If the sum of the zeroes of the polynomial  $f(x) = 2x^3 - 3kx^2 + 4x - 5$  is 6, then the value of k is

(a) 2

(b) 4

(c) -2

(d) -4

Answer (b) 4

16. The value of quadratic polynomial  $f(x) = 2x^2 - 3x - 2$  at  $x = -2$  is .....

- (a) 12
- (b) 15
- (c) -12
- (d) 16

Answer (a) 12

17. If  $(x + 1)$  is a factor of  $x^2 - 3ax + 3a - 7$ , then the value of  $a$  is

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

Answer (c) 1

18. If sum of the zeroes of the polynomial is 4 and their product is 4, then the quadratic polynomial is

- (a)  $x^2 - 2x + 2$
- (b)  $x^2 - 4x + 4$
- (c)  $x^2 + 4x + 4$
- (d)  $x^2 + 2x + 2$

Answer (b)  $x^2 - 4x + 4$

19. Dividend is equal to

- (a) divisor  $\times$  quotient + remainder
- (b) divisor  $\times$  quotient
- (c) divisor  $\times$  quotient - remainder
- (d) divisor  $\times$  quotient  $\times$  remainder

Answer (a) divisor  $\times$  quotient + remainder

20. If  $\alpha$  and  $\beta$  are the zeroes of the polynomial  $5x^2 - 7x + 2$ , then sum of their reciprocals is:

- (a)  $14/25$

(b)  $7/5$

(c)  $2/5$

(d)  $7/2$

Answer (d)  $7/2$

21. If  $a - b$ ,  $a$  and  $a + b$  are zeroes of the polynomial  $f(x) = 2x^3 - 6x^2 + 5x - 7$ , then value of  $a$  is

(a) 1

(b) 2

(c) -5

(d) 7

Answer (a) 1

22. 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)  $a = 0$ ,  $b = -6$

Answer (d)  $a = 0$ ,  $b = -6$

23. Find the quadratic polynomial whose zeros are 2 and -6

(a)  $x^2 + 4x + 12$

(b)  $x^2 - 4x - 12$

(c)  $x^2 + 4x - 12$

(d)  $x^2 - 4x + 12$

Answer (c)  $x^2 + 4x - 12$

24. If one zero of the polynomial  $p(x) = (k+4)x^2 + 13x + 3k$  is reciprocal of the other, then the value of 'k' is

(a) 3

(b) 4

(c) 5

(d) 2

Answer (d) 2

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

(a) 10

(b) -10

(c) 5

(d) -5

2. Given that two of the zeroes of the cubic polynomial  $ax^3 + bx^2 + cx + d$  are 0, the third zero is

(a)  $-\frac{b}{a}$       (b)  $\frac{b}{a}$       (c)  $\frac{c}{a}$       (d)  $-\frac{d}{a}$

3. If one of the zeroes of the quadratic polynomial  $(k - 1)x^2 + kx + 1$  is -3, then the value of k is

(a)  $\frac{4}{3}$       (b)  $\frac{-4}{3}$       (c)  $\frac{2}{3}$       (d)  $\frac{-2}{3}$

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

(a)  $x^2 - x + 12$

(b)  $x^2 + x + 12$

(c)  $\frac{x^2}{2} - \frac{x}{2} - 6$

(d)  $2x^2 + 2x - 24$

5. 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)  $a = 0, b = -6$

6. The number of polynomials having zeroes as -2 and 5 is

(a) 1

(b) 2

(c) 3

(d) more than 3

7. Given that one of the zeroes of the cubic polynomial  $ax^3 + bx^2 + cx + d$  is zero, the product of the other two zeroes is

(a)  $-\frac{c}{a}$       (b)  $\frac{c}{a}$       (c) 0      (d)  $-\frac{b}{a}$

8. If one of the zeroes of the cubic polynomial  $x^3 + ax^2 + bx + c$  is -1, then the product of the other two zeroes is

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

9. 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

10. The zeroes of the quadratic polynomial  $x^2 + kx + k$ ,  $k \neq 0$ ,

- (a) cannot both be positive
- (b) cannot both be negative
- (c) are always unequal
- (d) are always equal

11. 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

12. 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.

14. The number of polynomials having zeroes as 4 and 7 is

- (a) 2
- (b) 3
- (c) 4
- (d) more than 4

15. A quadratic polynomial, whose zeroes are -4 and -5, is

- (a)  $x^2 - 9x + 20$
- (b)  $x^2 + 9x + 20$
- (c)  $x^2 - 9x - 20$
- (d)  $x^2 + 9x - 20$

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

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

17. The zeroes of the quadratic polynomial  $x^2 - 15x + 50$  are

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

18. The zeroes of the quadratic polynomial  $3x^2 - 48$  are

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

19. The zeroes of the quadratic polynomial  $x^2 - 18x + 81$  are

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

20. The zeroes of the quadratic polynomial  $x^2 + px + p$ ,  $p \neq 0$  are

- (a) both equal
- (b) both cannot be positive
- (c) both unequal
- (d) both cannot be negative

22. If the zeroes of the quadratic polynomial  $Ax^2 + Bx + C$ ,  $C \neq 0$  are equal, then

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

23. If  $x^3 + 1$  is divided by  $x^2 + 5$ , then the possible degree of quotient is

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

24. If  $x^3 + 11$  is divided by  $x^{\hat{A}} - 3$ , then the possible degree of remainder is

- (a) 0
- (b) 1
- (c) 2
- (d) less than 2

25. If  $x^4 + 3x^{\hat{A}} + 7$  is divided by  $3x + 5$ , then the possible degrees of quotient and remainder are:

- (a) 3, 0
- (b) 4, 1
- (c) 3, 1
- (d) 4, 0

26. If  $x^5 + 2x^4 + x + 6$  is divided by  $g(x)$ , and quotient is  $x^{\hat{A}} + 5x + 7$ , then the possible degree of  $g(x)$  is:

- (a) 4
- (b) 2
- (c) 3
- (d) 5

27. If  $x^5 + 2x^4 + x + 6$  is divided by  $g(x)$  and quotient is  $x^{\hat{A}} + 5x + 7$ , then the possible degree of remainder is:

- (a) less than 1
- (b) less than 2
- (c) less than 3
- (d) less than 4

28. What is the number of zeroes that a linear polynomial has/have:

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

29. What is the number(s) of zeroes that a quadratic polynomial has/have:

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

30. What is the number(s) of zeroes that a cubic polynomial has/have:

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

31. If one of the zeroes of the cubic polynomial  $x^3 + px^2 + qx + r$  is  $-1$ , then the product of the other two zeroes is

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

32. If one zero of the quadratic polynomial  $x^2 + 3x + b$  is  $2$ , then the value of  $b$  is

- (a)  $10$
- (b)  $-8$
- (c)  $9$
- (d)  $-10$

33. If  $1$  is one of the zeroes of the polynomial  $x^2 + x + k$ , then the value of  $k$  is:

- (a)  $2$
- (b)  $-2$
- (c)  $4$
- (d)  $-4$

34. If  $p(x)$  is a polynomial of at least degree one and  $p(k) = 0$ , then  $k$  is known as

- (a) value of  $p(x)$
- (b) zero of  $p(x)$
- (c) constant term of  $p(x)$
- (d) none of these

36. If the zeroes of the quadratic polynomial  $x^2 + (a + 1)x + b$  are  $2$  and  $-3$ , then [NCERT Exemplar Problem, CBSE 2011]

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

38. Zeroes of a polynomial can be determined graphically. No. of zeroes of a polynomial is equal to no. of points where the graph of polynomial

- (a) intersects y-axis
- (b) intersects x-axis
- (c) intersects y-axis or intersects x-axis
- (d) none of these

39. If graph of a polynomial does not intersect the x-axis but intersects y-axis in one point, then no. of zeroes of the polynomial is equal to

- (a)  $0$
- (b)  $1$



- (c) 0 or 1
- (d) none of these

40. A polynomial of degree  $n$  has

- (a) only 1 zero
- (b) at least  $n$  zeroes
- (c) at most  $n$  zeroes
- (d) more than  $n$  zeroes

41. If  $p(x) = ax^2 + bx + c$ , then  $\frac{b}{a}$  is equal to

- (a) 0
- (b) 1
- (c) product of zeroes
- (d) sum of zeroes

42. If  $p(x) = ax^2 + bx + c$  one zero is  $-\frac{b}{a}$  and  $a + b + c = 0$ , then one zero is

- (a)  $-\frac{b}{a}$
- (b)  $\frac{c}{a}$
- (c)  $\frac{b}{c}$
- (d) none of these