Chapter - 2

Polynomials

1. Which of the following is a polynomial?

a) 1/x

b) x + 1/x

c) x^2 - 2x + 1

d) (x^2 + 1)/(x - 1)

Answer: c

2. The degree of a constant polynomial is:

a) 0

b) 1

c) 2

d) 3

Answer: a

3. Which of the following is a binomial?

a) x^2 + 2x + 1

b) x^2 - 1

c) x + 1/x

d) 2x^2 - 3x + 1

Answer: b

4. Which of the following is a trinomial?

a) $x^2 + 2x + 1$

b) $x^2 - 1$

c) $x + 1/x$

d) $2x^2 - 3x + 1$

Answer: d

5. Which of the following is not a polynomial?

a) $x^2 + 1$

b) $(x^2 + 1)/(x - 1)$

c) $1/x$

d) $x^3 + x^2 + x + 1/x$

Answer: c

6. The degree of the polynomial $3x^4 - 2x^3 + 5x^2 - 7x + 4$ is:

a) 0

b) 1

c) 2

d) 4

Answer: d

7. Which of the following is not a factor of the polynomial $x^3 - 3x^2 + 2x + 6$?

a) $(x - 2)$

b) $(x + 1)$

c) $(x - 3)$

d) $(x + 2)$

Answer: d

8. The remainder when x^3 + 3x^2 - 2x + 1 is divided by (x - 1) is:

a) 0

b) 1

c) -1

d) 2

Answer: 3

9. Which of the following is NOT a zero of the polynomial x^3 - 3x^2 - 4x + 12?

a) 2

b) -2

c) 3

d) -3

Answer: a

10. Which of the following is a factor of the polynomial x^3 + 3x^2 - 4x - 12?

a) (x + 1)

b) (x - 2)

c) (x + 2)

d) (x - 1)

Answer: c

11. The zeros of the polynomial 2x^3 - 5x^2 - 7x + 6 are:

a) -1, 2, 3/2

b) 1, 2, 3/2

c) -1, -2, 3/2

d) 1, -2, 3/2

Answer: a

12. The degree of the polynomial $5x^2 - 7x + 3$ is:

a) 0

b) 1

c) 2

d) 3

Answer: c

13. Which of the following is a monomial?

a) $3x^2 - 2x + 1$

b) $x^2 - 1$

c) $2x^2$

d) $x + 1/x$

Answer: c

14. Which of the following is a polynomial of degree zero?

a) $x + 1/x$

b) $2x^2 - 3x + 1$

c) 2

d) $x^2 - 2x + 1$

Answer: c

15. Which of the following is a quadratic polynomial?

a) $2x^2 - 3x + 1$

b) $x^2 - 2x + 1$

c) $x + 1/x$

d) $x^3 + x^2 + x + 1/x$

Answer: a

16. Which of the following is not a factor of the polynomial $x^2 - 2x - 3$?

a) $(x - 3)$

b) $(x + 1)$

c) $(x - 2)$

d) $(x + 3)$

Answer: d

17. The remainder when $x^3 + 2x^2 - 5x + 3$ is divided by $(x - 1)$ is:

a) 0

b) $1 - 2x$

c) $-1 + 4x$

d) $2 - 3x$

Answer: d

18. Which of the following is a cubic polynomial?

a) $x^2 - 2x + 1$

b) $2x^3 - 3x^2 + 4x - 1$

c) $x + 1/x$

d) $x^4 + x^3 + x^2 + x + 1/x$

Answer: b

19. Which of the following is not a zero of the polynomial $x^3 - 3x^2 - 2x + 6$?

a) 2

b) -2

c) 3

d) -3

Answer: b

20. The zeros of the polynomial $x^3 - 3x^2 - 2x + 6$ are:

a) 2, 1, -3

b) -2, 1, -3

c) 2, -1, 3

d) -2, -1, 3

Answer: a

21. Which of the following is a binomial?

a) $3x^2 - 2x + 1$

b) $x^2 - 1$

c) $2x^2$

d) $x + 1/x$

Answer: d

22. Which of the following is a polynomial of degree one?

a) $x + 1/x$

b) $2x^2 - 3x + 1$

c) 2

d) $x^2 - 2x + 1$

Answer: a

23. Which of the following is a linear polynomial?

a) $2x^2 - 3x + 1$

b) $x^2 - 2x + 1$

c) $x + 1/x$

d) $x^3 + x^2 + x + 1/x$

Answer: c

24. Which of the following is not a factor of the polynomial $x^2 - 3x + 2$?

a) $(x - 1)$

b) $(x - 2)$

c) $(x - 3)$

d) $(x + 1)$

Answer: c

25. The remainder when $2x^3 - 5x^2 + 3x + 1$ is divided by $(x + 1)$ is:

a) 0

b) 1

c) -1

d) 2

Answer: -1

26. Which of the following is a quadratic polynomial?

a) $x + 1/x$

b) $2x^2 - 3x + 1$

c) x^3 + x^2 + x + 1/x

d) x^4 + x^3 + x^2 + x + 1/x

Answer: b

27. Which of the following is a factor of the polynomial x^2 - 5x + 6?

a) (x - 2)

b) (x - 3)

c) (x - 4)

d) (x - 1)

Answer: a, b

28. Which of the following is a zero of the polynomial x^3 - 3x^2 - 2x + 6?

a) 2

b) -2

c) 3

d) -3

Answer: a, d

29. Which of the following is a cubic polynomial?

a) x^2 - 2x + 1

b) 2x^3 - 3x^2 + 4x - 1

c) x + 1/x

d) x^4 + x^3 + x^2 + x + 1/x

Answer: b

30. The zeros of the polynomial x^2 - 5x + 6 are:

a) 2, 1

b) 3, 2

c) 6, 1

d) 5, 6

Answer: a

31. Which of the following is a binomial?

a) 3x^2 - 2x + 1

b) x^2 - 1

c) 2x^2

d) x + 1/x

Answer: d

32. Which of the following is a polynomial of degree one?

a) x + 1/x

b) 2x^2 - 3x + 1

c) 2

d) x^2 - 2x + 1

Answer: a

33. Which of the following is not a factor of the polynomial x^2 - 6x + 9?

a) (x - 3)

b) (x - 2)

c) (x - 1)

d) (x + 3)

Answer: b, d

34. Which of the following is a factor of the polynomial $x^3 - 3x^2 - 4x + 12$?

a) $(x - 2)$

b) $(x + 2)$

c) $(x - 3)$

d) $(x + 3)$

Answer: a, b

35. Which of the following is a zero of the polynomial $x^3 + 3x^2 - 4x - 12$?

a) 3

b) -3

c) 2

d) -2

Answer: b

36. The value of the polynomial $2x^3 - 5x^2 + 3x + 1$ at $x = 2$ is:

a) 11

b) 17

c) 23

d) 29

Answer: d

37. Which of the following is not a quadratic polynomial?

a) $x^2 + 2x + 1$

b) $x^2 - 1$

c) $2x^2 - 3x + 1$

d) $x^3 + x^2 + x + 1/x$

Answer: d

38. Which of the following is a factor of the polynomial $x^3 - 4x^2 + 5x - 2$?

a) $(x - 2)$

b) $(x - 1)$

c) $(x + 2)$

d) $(x + 1)$

Answer: a, b

39. The zeros of the polynomial $x^2 - 6x + 9$ are:

a) 3, 2

b) 3, 3

c) 6, 1

d) 5, 6

Answer: b

40. Which of the following is a cubic polynomial?

a) $x^2 - 2x + 1$

b) $2x^3 - 3x^2 + 4x - 1$

c) $x + 1/x$

d) $x^4 + x^3 + x^2 + x + 1/x$

Answer: b

41. The value of the polynomial $x^2 - 5x + 6$ at $x = 2$ is:

a) 0

b) 1

c) 2

d) 3

Answer: b

42. Which of the following is a zero of the polynomial x^2 - 3x + 2?

a) 1

b) 2

c) 3

d) 4 Answer: a, b

43. Which of the following is a quadratic polynomial?

a) 2x^3 - 3x^2 + 4x - 1

b) x^2 - 2x + 1

c) x^3 + x^2 + x + 1/x

d) x^4 + x^3 + x^2 + x + 1/x

Answer: b

44. Which of the following is a factor of the polynomial x^4 - 16?

a) (x - 2)

b) (x + 2)

c) (x - 4)

d) (x + 4)

Answer: b, d

45. Which of the following is a zero of the polynomial x^3 - 6x^2 + 11x - 6?

a) 1

b) 2

c) 3

d) 4

Answer: a, b, c

46. The value of the polynomial 2x^3 - x^2 + 3x - 1 at x = -1 is:

a) -6

b) -2

c) 0

d) 4

Answer: d

47. Which of the following is a factor of the polynomial x^3 - 3x^2 - 10x + 24?

a) (x - 2)

b) (x + 2)

c) (x - 3)

d) (x + 3)

Answer: a, b

48. Which of the following is a zero of the polynomial x^3 - 3x^2 + 2x + 6?

a) 1

b) 2

c) 3

d) 4

Answer: a

49. The zeros of the polynomial x^2 - 4x + 4 are:

a) 2, 2

b) 4, 2

c) 3, 1

d) 5, 3

Answer: a

50. Which of the following is not a quadratic polynomial?

a) x^2 - 2x + 1

b) 2x^3 - 3x^2 + 4x - 1

c) x^2 + 3x - 4

d) 3x^2 - 2x + 1/x

Answer: b