AB's PATHS KOLHAPUR

Topic Name: Polymonial objective

Date : 00/00/2025 **Total Marks:** **No Of Questions:**

1. If $4x^4 - 3x^3 - 3x^2 + x - 7$ is divided by $1 - 2x$ then remainder will be

(A) $\frac{57}{8}$

(B) $-\frac{59}{8}$

(C) $\frac{55}{8}$

(D) $-\frac{55}{8}$

2. The polynomials $ax^3 + 3x^2 - 3$ and $2x^3 - 5x + a$ when divided by $(x - 4)$ leaves remainders R_1 & R_2 respectively then value of **'a'** if $2R_1 - R_2 = 0$.

(A) $-\frac{18}{127}$

(B) $\frac{18}{127}$

(C) $\frac{17}{127}$

(D) $-\frac{17}{127}$

3. A quadratic polynomial is exactly divisible by $(x + 1)$ & $(x + 2)$ and leaves the remainder 4 after division by $(x + 3)$ then that polynomial is

(A) $x^2 + 6x + 4$

(B) $2x^2 + 6x + 4$

(C) $2x^2 + 6x – 4$

(D) $x^2 + 6x – 4$

4. The values of a & b so that the polynomial $x^3 - ax^2 - 13x + b$ is divisible by $(x - 1)$ & $(x + 3)$ are

(A) a = 15, b = 3

(B) a = 3, b = 15

(C) c = - 3, b = 15

(D) a = 3, b = - 15

5. Graph of a quadratic equation is always a -

(A) Straight line

(B) Circle

(C) Parabola

(D) Hyperbola

6. If the sign of **'a'** is positive in a quadratic equation then its graph should be =

(A) Parabola open upwards

(B) Parabola open downwards

(C) Parabola open leftwards

(D) Can't be determined

7. The graph of polynomial $y = x^3 - x^2 + x$ is always passing through the point -

(A) (0, 0)

(B) (3, 2)

(C) (1, -2)

(D) All of these

8. How many time, graph of the polynomial $f(x) = x^3 - 1$ will intersect X-axis -

(A) 0

(B) 1

(C) 2

(D) 4

9. Which of the following curve touches X-axis -

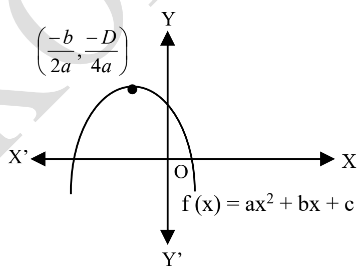
(A) $x^2 - 2x + 4$

(B) $3x^2 - 6x + 1$

(C) $4x^2 - 16x + 9$

(D) $25x^2 - 20x + 4$

10. In the diagram given below shows the graphs of the polynomial $f(x) = ax^2 + bx + c$, then



(A) a < 0, b < 0 and c > 0

(B) a < 0, b < 0 and c < 0

(C) a < 0, b > 0 and c > 0

(D) a < 0, b > 0 and c < 0

11. Quadratic polynomial having zeros 1 and –2 is -

(A) $x^2 – x + 2$

(B) $x^2 – x – 2$

(C) $x^2 + x – 2$

(D) None of these

12. If $(x – 1)$ is a factor of $k^2x^3 – 4kx – 1$, then the value of k is –

(A) 1

(B) – 1

(C) 2

(D) – 2

13. For what value of a is the polynomial $2x^4 – ax^3 = 4x^2 + 2x + 1$ divisible by $1 – 2x$?

(A) a = 25

(B) a = 24

(C) a = 23

(D) a = 22

14. If one of the factors of $x^2 + x – 20$ is $(x + 5)$, then other factor is -

(A) $(x – 4)$

(B) $(x – 5)$

(C) $(x – 6)$

(D) (x – 7)

15. If α, β be the zeros of the quadratic polynomial $2x^2 + 5x + 1$, then value of $\alpha + \beta + \alpha\beta =$

(A) – 2

(B) – 1

(C) 1

(D) None of these

16. If α, β be the zeros of the quadratic polynomial $2 - 3x - x^2$, then $\alpha + \beta =$

(A) 2

(B) 3

(C) 1

(D) None of these

17. Quadratic polynomial having sum of it's zeros 5 and product of it's zeros – 14 is-

(A) $x^2 - 5x - 14$

(B) $x^2 - 10x - 14$

(C) $x^2 - 5x + 14$

(D) None of these

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

19. If 3 is a zero of the polynomial $f(x) = x^4 - x^3 - 8x^2 + kx + 12$, then the value of k is -

(A) – 2

(B) 2

(C) – 3

(D) $\frac{3}{2}$

20. The sum and product of zeros of the quadratic polynomial are – 5 and 3 respectively the quadratic polynomial is equal to -

(A) $x^2 + 2x + 3$

(B) $x^2 - 5x + 3$

(C) $x^2 + 5x + 3$

(D) $x^2 + 3x - 5$

21. On dividing $x^3 - 3x^2 + x + 2$ by polynomial g(x), the quotient and remainder were x – 2 and 4 – 2x respectively then g(x) :

(A) $x^2 + x + 1$

(B) $x^2 + x - 1$

(C) $x^2 - x - 1$

(D) $x^2 - x + 1$

22. If the polynomial $3x^3 - x3 - 3x + 5$ is divided by another polynomial x – 1 – x2 , the remainder comes out to be 3, then quotient polynomial is –

(A) 2 – x

(B) 2x – 1

(C) 3x + 4

(D) x – 2

23. If sum of zeros $= \sqrt{2}$, product of its zeros $= \frac{1}{3}$. The quadratic polynomial is –

(A) $3x^2 - 3\sqrt{2}x + 1$

(B) $\sqrt{2}x^2 + 3x + 1$

(C) $3x^2 - 2\sqrt{3}x + 1$

(D) $\sqrt{2}x^2 + x + 3$

24. If $-\frac{1}{3}$ is the zeros of the cubic polynomial $f(x) = 3x^3 - 5x^2 - 11x - 3$ the other zeros are :

(A) – 3 , –1

(B) 1, 3

(C) 3, –1

(D) –3, 1

25. If α and β are the zeros of the polynomial $f(x) = 6x^2 - 3 - 7x$ then $(\alpha + 1)(\beta + 1)$ is equal to –

(A) $\frac{5}{2}$

(B) $\frac{5}{3}$

(C) $\frac{2}{5}$

(D) $\frac{3}{5}$

26. Let $p(x) = ax^2 + bx + c$ be q quadratic polynomial. It can have at most –

(A) One zero

(B) Two zeros

(C) Three zeros

(D) None of these

27. The graph of the quadratic polynomial $ax^2 + bx + c, a \neq 0$ is always-

(A) Straight line

(B) Curve

(C) Parabola

(D) None of these

28. If 2 and $-\frac{1}{2}$ as the sum and product of its zeros respectively then the quadratic polynomial f(x) is –

(A) $x^2 - 2x - 4$

(B) $4x^2 - 2x + 1$

(C) $2x^2 + 4x - 1$

(D) $2x^2 - 4x - 1$

29. If α and β are the zeros of the polynomial $f(x) = 16x^2 + 4x - 5$ then $\frac{1}{\alpha} + \frac{1}{\beta}$ is equal to –

(A) $\frac{2}{5}$

(B) $\frac{5}{2}$

(C) $\frac{3}{5}$

(D) $\frac{4}{5}$

30. If α and β are the zeros of the polynomial f(x) = $15x^2 - 5x + 6$ then $\left(1+\frac{1}{\alpha}\right)\left(1+\frac{1}{\beta}\right)$ is equal to –

(A) $\frac{13}{3}$

(B) $\frac{13}{2}$

(C) $\frac{16}{3}$

(D) $\frac{15}{2}$

31. If α, β and γ are the zeros of the polynomial $2x^3 - 6x^2 - 4x + 30$. then the value of ($\alpha\beta + \beta\gamma + \gamma\alpha$) is

(A) – 2

(B) 2

(C) 5

(D) –30

32. If α, β and γ are the zeros of the polynomial f(x) = $ax^3 + bx^2 + cx + d$, then $\frac{1}{\alpha}+\frac{1}{\beta}+\frac{1}{\gamma}=$

(A) $-\frac{b}{a}$

(B) $\frac{c}{d}$

(C) $-\frac{c}{d}$

(D) $-\frac{c}{a}$

33. If α, β and γ are the zeros of the polynomial f(x) = $ax^3 - bx^2 + cx - d$, then $\alpha^2+\beta^2+\gamma^2 =$

(A) $\frac{b^2-ac}{a^2}$

(B) $\frac{b^2+2ac}{b^2}$

(C) $\frac{b^2-2ac}{a}$

(D) $\frac{b^2-2ac}{a^2}$

34. If α, β and γ are the zeros of the polynomial f(x) = $x^3 + px^2 - pqrx + r$, then $\frac{1}{\alpha\beta}+\frac{1}{\beta\gamma}+\frac{1}{\gamma\alpha}=$

(A) $\frac{r}{p}$

(B) $\frac{p}{r}$

(C) $-\frac{p}{r}$

(D) $-\frac{r}{p}$

35. If the parabola f(x) = $ax^2 + bx + c$ passes through the points (-1, 12), (0, 5) and (2, -3) , the value of a + b + c is –

(A) - 4

(B) -2

(C) Zero

(D) 1

36. If a, b are the zeros of f(x) = $x^2 + px + 1$ and c, d are the zeros of f(x) = $x^2 + qx + 1$ the value of
E = (a – c) (b – c) (a + b) (b + d) is

(A) $p^2 - q^2$

(B) $q^2 - p^2$

(C) $q^2 + p^2$

(D) None of these

37. If α, β are zeros of $ax^2 + bx + c$ then zeros of $a^3x^2 + abcx + c^3$ are -

(A) $\alpha\beta, \alpha+\beta$

(B) $\alpha^2\beta, \alpha\beta^2$

(C) $\alpha\beta, \alpha^2\beta^2$

(D) α^3, β^3

38. Let α, β be the zeros of the polynomial $x^2 - px + r$ and $\frac{\alpha}{2}, 2\beta$ be the zeros of $x^2 - qx + r$, Then the value of r is –

(A) $\frac{2}{9}(p-q)(2q-p)$

(B) $\frac{2}{9}(q-p)(2p-q)$

(C) $\frac{2}{9}(q-2)(2q-p)$

(D) $\frac{2}{9}(2p-q)(2q-p)$

39. When $x^{200} + 1$ is divided by $x^2 + 1$, the remainder is equal to –

(A) x + 2

(B) 2x – 1

(C) 2

(D) – 1

40. If a $(p+q)^2 + 2bpq + c = 0$ and also $a(q + r)^2 + 2bqr + c = 0$ then pr is equal to –

(A) $p^2+\frac{a}{c}$

(B) $q^2+\frac{c}{a}$

(C) $p^2+\frac{a}{b}$

(D) $q^2+\frac{a}{c}$

41. If a, b and c are not all equal and α and β be the zeros of the polynomial $ax^2 + bx + c$, then value of $(1+\alpha+\alpha^2)(1+\beta+\beta^2)$ is :
(A) 0
(B) Positive
(C) Negative
(D) Non-negative

42. Two complex number α and β are such that $\alpha+\beta=2$ and $\alpha^4+\beta^4=272$, then the polynomial whose zeros are α and β is –
(A) $x^2 - 2x - 16 = 0$
(B) $x^2 - 2x + 12 = 0$
(C) $x^2 - 2x - 8 = 0$
(D) None of theses

43. If 2 and 3 are the zeros of $f(x) = 2x^3 + mx^2 - 13x + n$, then the values of m and n are respectively –
(A) -5 , - 30
(B) -5, 30
(C) 5, 30
(C) 5, 30

44. If α,β are the zeros of the polynomial $6x^2 + 6px + p^2$, then the polynomial whose zeros are $(\alpha+\beta)^2$ and $(\alpha-\beta)^2$ is –
(A) $3x^2 + 4p^2x + p^4$
(B) $3x^2 + 4p^2x - p^4$
(C) $3x^2 - 4p^2x + p4$
(D) None of theses

45. If c, d are zeros of $x^2 - 10ax - 11b$ and a, b are zeros of $x^2 - 10cx - 11d$, then value of a + b + c + d is –
(A) 1210
(B) -1
(C) 2530
(D) -11

46. If the ratio of the roots of polynomial $x^2 + bx + c$ is the same as that of the ratio of the roots of $x^2 + qx + r$, then –
(A) $br^2 = qc^2$
(B) $cq^2 = rb^2$
(C) $q^2c^2 = b^2r^2$
(D) bq = rc

47. The value of p for which the sum of the squares of the roots of the polynomial $x^2 - (p-2)x - p - 1$ assume the least value is -
(A) -1
(B) 1
(C) 0

48. (D) 2If the roots of the polynomial $ax^2 + bx + c$ are of the form $\dfrac{\alpha}{\alpha-1}$ and $\dfrac{\alpha+1}{\alpha}$ then the value of $(a + b + c)^2$ is-
(A) $b^2 - 2ac$
(B) $b^2 - 4ac$
(C) $2b^2 - ac$
(D) $4b^2 - 2ac$

49. If α,β and γ are the zeros of the polynomial $x^3 + a_0x^2 + a_1x + a_2$, then $(1-\alpha^2)(1-\beta^2)(1-\gamma)$ is
(A) $(1 - a_1)^2 + (a_0 - a_2)^2$
(B) $(1 + a_1)^2 - (a_0 + a_2)^2$
(C) $(1 + a_1)^2 + (a_0 + a_2)^2$
(D) None of these

50. If α,β,γ are the zeros of the polynomial $x^3 - 3x + 11$, then the polynomial whose zeros are $(\alpha+\beta)(\beta+\gamma)$ and $(\gamma+\beta)$ is –
(A) $x^3 + 3x + 11$
(B) $x^3 - 3x + 11$
(C) $x^3 + 3x - 11$
(D) $x^3 - 3x - 11$

51. If α,β,γ are such that $\alpha+\beta+\gamma=2,\ \alpha^2+\beta^2+\gamma^2=6,\ \alpha^3+\beta^3+\gamma^3=8,$ then $\alpha^4+\beta^4+\gamma^4$ is equal to –
(A) 10
(B) 12
(C) 18
(D) None of these

52. If α,β are the roots of $ax^2 + bx + c$ and $\alpha+k,\ \beta+k$ are the roots of $px^2 + qx + r$, then k =
(A) $-\dfrac{1}{2}\left[\dfrac{a}{b}-\dfrac{p}{q}\right]$
(B) $\left[\dfrac{a}{b}-\dfrac{p}{q}\right]$
(C) $\dfrac{1}{2}\left[\dfrac{b}{a}-\dfrac{q}{p}\right]$
(D) (ab – pq)

53. If α,β are the roots of the polynomial $x^2 - px + q$, then the quadratic polynomial, the roots of which are $(\alpha^2-\beta^2)(\alpha^3-\beta^3)$ and $\alpha^3\beta^2+\alpha^2\beta^3$:
(A) $px^2 - (5p + 7q)x - (p^6q^6 + 4p^2q^6) = 0$
(B) $x^2 - (p^5 - 5p^3q + 5pq^2)x + (p^6q^2 - 5p^4q^3 + 4p^2q^4) = 0$
(C) $x^2 - (p^3q - 5p^5 + p^4q) - (p^6q^2 - 5p^2q^6) = 0$
(D) All of the above

54. The condition that $x^3 - ax^2 + bx - c = 0$ may have two of the roots equal to each other but of opposite signs is :
(A) ab = c
(B) $\dfrac{2}{3}a = bc$
(B) $\dfrac{2}{3}a = bc$
(D) None of these

55. If the roots of polynomial $x^2 + bx + ac$ are α,β and roots of the polynomial $x^2 + ax + bc$ are α,γ then the values of α,β,γ respectively are –
(A) a,b,c
(B) b,c,a
(C) c,a,b
(D) None of these

56. If one zero of the polynomial $ax^2 + bx + c$ is positive and the other negative then $(a, b, c \in R, a \neq 0)$
(A) a and b are of opposite signs.
(B) A and c are of opposite signs.

(C) b and c are of opposite signs.
(D) a,b,c are all of the same sign.

57. If α, β are the zeros of the polynomial $x^2 - px + q$. then $\frac{\alpha^2}{\beta^2} + \frac{\beta^2}{\alpha^2}$ is equal to -

(A) $\frac{p^4}{q^2} + 2 - \frac{4p^2}{q}$

(B) $\frac{p^4}{q^2} - 2 + \frac{4p^2}{q}$

(C) $\frac{p^4}{q^2} + 2q - \frac{4p^2}{q}$

(D) None of these

58. If α, β are the zeros of the polynomial $x^2 - px + 36$ and $\alpha^2 + \beta^2 = 9,$ then p =

(A) ± 6
(B) $\pm$ 3
(C) $\pm$ 8
(D) ± 9

59. If α, β are zeros of $ax^2 + bx + c$, $ac \neq 0$, then zeros of $cx^2 + bx + a$ are –

(A) $-\alpha, \ -\beta$

(B) $\alpha, \frac{1}{\beta}$

(C) $\beta, \frac{1}{\alpha}$

(D) $\frac{1}{\alpha}, \frac{1}{\beta}$

60. A real number is said to be algebraic if it satisfies a polynomial equation with integral coefficients. Which of the following numbers is not algebraic :

(A) $\frac{2}{3}$

(B) $\sqrt{2}$

(C) 0

(D) π

61. The bi-quadratic polynomial whose zeros are $1, \ 2, \ \frac{4}{3}, -1$ is :

(A) $3x^4 - 10x^3 + 5x^2 + 10x - 8$
(B) $3x^4 + 10x^3 - 5x^2 + 10x - 8$
(C) $3x^4 + 10x^3 + 5x^2 - 10x - 8$
(D) $3x^4 - 10x^3 - 5x^2 + 10x - 8$

62. The cubic polynomials whose zeros are $4, \frac{3}{2}$ and -2 is :

(A) $2x^3 + 7x^2 + 10x - 24$
(B) $2x^3 + 7x^2 - 10x - 24$
(C) $2x^3 - 7x^2 - 10x + 24$
(D) None of these

63. If the sum of zeros of the polynomial $p(x) = kx^3 - 5x^2 - 11x - 3$ is 2, then k is equal to

(A) $k = -\frac{5}{2}$

(B) $k = \frac{2}{5}$

(C) k = 10

(D) $k = \frac{5}{2}$

64. If $f(x) = 4x^3 - 6x^2 + 5x - 1$ and α, β and γ are its zeros , then $\alpha\beta\gamma =$

(A) $\frac{3}{2}$

(B) $\frac{5}{4}$

(C) $-\frac{3}{2}$

(D) $\frac{1}{4}$

65. Consider $f(x) = 8x^4 - 2x^2 + 6x - 5$ and $\alpha, \beta, \gamma . \delta$ are it's zeros then $\alpha + \beta + \gamma + \delta =$

(A) $\frac{1}{4}$

(B) $-\frac{1}{4}$

(C) $-\frac{3}{2}$

(D) None of these

66. If $x^2 - ax + b = 0$ and $x^2 = px + q = 0$ have a root in common and the second equation has equal roots, then –

(A) b + q = 2ap

(B) $b + q = \frac{ap}{2}$

(C) b + q = ap

(D) None of these

67. If the sum of the two zeros of $x^3 + px^2 + qx + r$ is zero, then pq =

(A) – r
(B) r
(C) 2r
(D) –2r

68. Let $a \neq 0$ and p(x) be a polynomial of degree grater than 2. If p(x) leaves remainders a and – a when divided respectively by x + a and x – a , the remainder when p(x) is divided by $x^2 - a^2$ is

(A) 2x
(B) – 2x
(C) x
(D) – x

69. If one root of the polynomial $x^2 + px + q$ is square of the other root, then

(A) $p^3 - q(3p - 1) + q^2 = 0$
(B) $p^3 - q(3p + 1) + q^2 = 0$

(C) $p^3 + q(3p - 1) - q^2 = 0$
(D) $p^3 + q(3p + 1) - q^2 = 0$

70. If α, β are the zeros of $x^2 + px + 1$ and γ, δ be those of $x^2 + qx + 1$, then the value of $(\alpha-\gamma)(\beta-\gamma)\ (\alpha+\delta)(\beta+\delta)$ =
(A) $p^2 - q^2$
(B) $q^2 - p^2$
(C) p^2
(D) q^2

71. The quadratic polynomial whose zeros are twice the zeros of $2x^2 - 5x + 2 = 0$ is –
(A) $8x^2 - 10x + 2$
(B) $x^2 - 5x + 4$
(C) $2x^2 - 5x + 2$
(D) $x^2 - 10x + 6$

72. The coefficient of x in $x^2 + px + q$ was taken as 17 in place of 13 and it's zeros were found to be – 2 and – 15. The zeros of the original polynomial are -
(A) 3, 7
(B) – 3 , 7
(C) – 3 , – 7
(D) – 3, – 10

73. If $\alpha+\beta=4$ and $\alpha^2+\beta^2=44,$ then α,β are the zeros of the polynomial .
(A) $2x^2 - 7x + 6$
(B) $3x^2 + 9x + 11$
(C) $9x^2 - 27x + 20$
(D) $3x^2 - 12x + 5$

74. If α, β, γ are the zeros of the polynomial $x^3 + 4x + 1$, then
$(\alpha+\beta)^{-1} + (\beta+\gamma)^{-1} + (\gamma+\alpha)^{-1} =$
(A) 2
(B) 3
(C) 4
(D) 5

75. If α, β are the zeros of the quadratic polynomial $4x^2 - 4x + 1$, then $\alpha^3 + \beta^3$ is –
(A) $\frac{1}{4}$
(B) $\frac{1}{8}$
(C) 16
(D) 32

76. The value of 'a', for which one root of the quadratic polynomial $(a^2 - 5a + 3)x^2 + (3a - 1)x + 2$ is twice as large as the other, is -
(A) $-\frac{1}{3}$
(B) $\frac{2}{3}$
(C) $-\frac{2}{3}$
(D) $\frac{1}{3}$

77. Let α, β be the zeros of $x^2 + (2-\lambda)x - \lambda$. The values of λ for which $\alpha^2 + \beta^2$ is minimum is –
(A) 0
(B) 1
(C) 2
(D) 3

78. If 1 + 2i is a zero of the polynomial $x^2 + bx + c$, b, c $\in$ R , then (b, c) is given by –
(A) (2. – 5)
(B) (- 3, 1)
(C) (-2, 5)
(D) (3, 1)

79. If 2 + i is a zero of the polynomial $x^3 - 5x^2 + 9x - 5$, the other zeros are
(A) 1 and 2 – i
(B) – 1 and 3 + i
(C) 0 and 1
(D) None of these

80. The value of λ for which one zero of $3x^2 - (1 + 4\lambda)x + \lambda^2 + 2$ may be one-third of the other is –
(A) 4
(B) $\frac{33}{8}$
(C) $\frac{17}{4}$
(D) $\frac{31}{8}$

81. If 1 – i is a zero of the polynomial $x^2 + ax + b$, then the values of a and b are respectively
(A) 2, 1
(B) – 2 , 2
(C) 2, 2
(D) 2, - 2

82. If the sum of the zeros of the polynomial $x^2 + px + q$ is equal to the sum of their squares, then
(A) $P^2 - q^2 = 0$
(B) $p^2 + q^2 = 2q$
(C) $p^2 + p = 2q$
(D) None of these

83. Let α, β be the zeros of the polynomial (x – a) (x – b) – c with $c \neq 0$. then the zeros of the polynomial $(x-\alpha)(x-\beta)$ + c are :
(A) a, c
(B) b, c
(C) a, b
(D) a + c, b + c

84. If p, q are zeros of $x^2 + px + q$. then
(A) p = 1
(B) p = 1 or 0
(C) p = - 2

85. (D) p = - 2 or 0If $\alpha \neq \beta$ and $\alpha^2 = 5\alpha - 3, \beta^2 = 5\beta - 3,$ then the polynomial whose zeros are $\frac{\alpha}{\beta}$ and $\frac{\beta}{\alpha}$ is

(A) $3x^2 - 25x + 3$

(B) $x^2 - 5x + 3$

(C) x2+5x – 3

(D) $3x^2 - 19x + 3$

86. If $\alpha \neq \beta$ and the difference between the roots of the polynomials $x^2 + ax + b$ and $x^2 + bx + a$ is the same, then

(A) $a + b + 4 = 0$

(B) $a + b - 4 = 0$

(C) $a - b + 4 = 0$

(D) $a - b - 4 = 0$

87. If the zeros of the polynomial $ax^2 + bx + c$ be in the ratio m : n, then

(A) $b^2 mn = (m^2 + n^2) ac$

(B) $(m + n)^2 ac = b^2 mn$

(C) $b^2 (m^2 + n^2) = mnac$

(D) None of these

88. The minimum value of the expression $4x^2 + 2x + 1$ $(x \in R)$ is -

(A) $\frac{1}{4}$

(B) $\frac{1}{2}$

(C) $\frac{3}{4}$

(D) 1

89. If x be real , the maximum value of $7 + 10x - 5x^2$ is –

(A) 12

(B) 15

(C) 16

(D) 18

90. If p and q $(\neq 0)$ are the zeros of the polynomial $x^2 + px + q$, then the least value of $x^2 + px + q$ $(x \in R)$ is –

(A) $-\frac{1}{4}$

(B) $\frac{1}{4}$

(C) $-\frac{9}{4}$

(D) $\frac{9}{4}$

91. If x is real, the minimum value of $x^2 - 8x + 17$ is –

(A) – 1

(B) 0

(C) 1

(D) 2

1. (b)
2. (b)
3. (b)
4. (b)
5. (c)
6. (a)
7. (a)
8. (b)
9. (d)
10. (a)
11. (c)
12. (a)
13. (a)
14. (a)
15. (a)
16. (d)
17. (a)
18. (c)
19. (b)
20. (c)
21. (d)
22. (d)
23. (a)
24. (c)
25. (b)
26. (b)
27. (c)
28. (d)
29. (d)
30. (d)
31. (a)
32. (c)
33. (d)
34. (b)
35. (c)
36. (b)
37. (b)
38. (d)
39. (c)
40. (b)
41. (d)
42. (c)
43. (b)
44. (c)
45. (a)
46. (b)
47. (b)
48. (b)
49. (b)
50. (d)
51. (c)
52. (c)
53. (b)
54. (a)
55. (c)
56. (b)
57. (a)
58. (d)
59. (d)
60. (d)
61. (a)
62. (c)
63. (d)
64. (d)
65. (d)
66. (b)
67. (b)
68. (d)
69. (a)
70. (b)
71. (b)
72. (d)
73. (d)
74. (c)
75. (a)
76. (b)
77. (b)
78. (c)
79. (a)
80. (d)
81. (b)
82. (c)
83. (c)
84. (b)
85. (d)
86. (a)
87. (b)
88. (a)
89. (c)
90. (c)