

A : Square Formula

Class – VII

01. $x^8 - 16$.		02. $a^4 - 6a^2 + 1$	M-01
03. $a^2 + 2a - 323$.	M-02	04. $x^2 - 2x - 18768$.	(Imp)
05. $4x^4 + 81$.		06. $(a^2 - b^2)(x^2 - y^2) + 4abxy$	M-05,96
07. $4x^4 + 16y^4$	M-85	08. $4x^2 - 4xy - 8y^2 + 6yz - z^2$	M-04
09. $x^8 + x^4 + 1$	M-04	10. $x^2 - y^2 - 6ax + 2ay + 8a^2$	M-02
11. $p^4 - 11p^2q^2 + q^4$.		12. $a^2 - b^2 - c^2 + 2bc$	M-00
13. $x^4 + \frac{1}{x^4} + 1$	M-06	14. $x^2 + \frac{1}{x^2} - 3$.	
15. $99a^2 - 202ab + 99b^2$		16. $2a^2b^2 + 18a^2 + 18b^2 + 18ab - 9a^4 - 9b^4 - 9a^2b^2 - 9ab^2$	M-02

B : Taking Common

Class – VII

17. $3a(3a + 2c) - 4b(b + c)$	M-95,87	18. $x(x - 4) - y(y + 2) + 3$.	
19. $4m(m - 1) - 3n(3n - 2)$	M-89	20. $b^2 - ac - bc + ab$	M-99
21. $x^3(x + 2y) - y^3(2x + y)$.		22. $4x^2 - 4xz - 9y^2 + 6yz$.	
23. $a(a - 1) - b(b - 1)$	M-90	24. $2x^2 + yz - 2xy - zx$	M-96
25. $(ab + c)^2 + (ac - b)^2$.		26. $a^2 + b^2 - c^2 - 2ab$	M-93
27. $abm^3 - (b + a^2)m^2 + 1$.		28. $a^2 - b^2 - c^2 - 2bc - a - b - c$.	(Imp)

C : Cube Formula

Class – VIII

29. $x^6 + 27$	M-88	30. $a^6 - 26a^3 - 27$.	
31. $27x^6 - 125$	M-91,84	32. $8(x + y)^3 - z^3$	
33. $x^6 - 729$.		34. $x^3 - 9y^3 + (x + y)^3$	

D : Middle Term Breaking (Simple)

Class – VIII

35. $x^2 - 7x + 6$	M-05,97	36. $x^2 + 6x - 27$	M-97
37. $x^4 + x^2 - 2$	M-02	38. $14x^2 + x - 3$	M-89
39. $x^2 - x - 600$	M-98,87	40. $10x^2 + 7xy - 12y^2$	M-84

E : Middle Term Breaking (Special Type)

Class – IX

41. $p^2 + p - (a + 1)(a + 2)$	M-99,94,88	42. $x^2 + x - (a - 1)(a - 2)$.	
43. $p^2 + 2p - (q + 1)(q - 1)$	M-92	44. $x^2 + 3x - (a^2 + a - 2)$.	M-04,Nar-06
45. $x^2 + x - a^2 - 3a - 2$.		46. $a^2 + 2a - x^2 + 4x - 3$.	
47. $(a - 1)x^2 - x - (a - 2)$	M-90	48. $(a^2 - a - 2)x^2 - 3x - 1$	M-94
49. $(a^2 - b^2)x^2 + 2ax + 1$	M-86	50. $x^2 - (x - ab)(a + b)^2$.	Nar-06[K-149,136]
51. $(a + b)^2 - 4(a + b) - 12$	M-97	52. $(x^2 + 5x + 4)(x^2 + 5x + 6) - 15$	M-85
53. $(x + 2)(x + 1) - \frac{p + 1}{p^2}$.		54. $x^2 - \frac{2(a^2 + 1)}{a^2 - 1} + 1$.	[K-191]

Giving xerox of these sums is strictly prohibited

E : Middle Term Breaking (Special Type)

Class –IX

- | | | | |
|--|-----------------------|--|------|
| 55. $(x - y)^2 - x + y - 2$ | M-95 | 56. $(a - 1)x^2 + a^2xy + (a + 1)y^2$. | |
| 57. $(x^2 - 1)^2 + 8x(x^2 + 1) + 19x^2$. | | 58. $x^4 - 2x^3a - 6x^2a^2 - 2xa^3 + a^4$. | |
| 59. $a(a + b + c - 2) + (b - 1)(c - 1)$. | | 60. $(a + b)^2x^2 + 2(a^2 + b^2)xy + (a - b)^2y^2$. | |
| 61. $(x + y)p^2 + 2xp + (x - y)$. | | 62. $(a^2 + 1)(x^2 - 1) - a^2(a^2 + 2)x$. | |
| 63. $x^2 - \left(2a + \frac{1}{a}\right)x + 2$. | M-03 | 64. $x^2 - \left(a + \frac{1}{a}\right)x + 1$. | M-00 |
| 65. $2\left(a^2 + \frac{1}{a^2}\right) - \left(a - \frac{1}{a}\right) - 7$. | | 68. $\left(\frac{a}{b} + \frac{b}{a}\right) + \left(\frac{b}{c} + \frac{c}{b}\right) + \left(\frac{c}{a} + \frac{a}{c}\right) + 3$. | |
| 69. $x^2 - 56\frac{56}{29}x - 4$. | Hind-93 [K-107,P-54] | 70. $a^3 + \frac{1}{a^3} + \frac{26}{27}$ | |

F : Arrange in descending power of a variable

Class –IX

- | | | | |
|---|-----------|--|------|
| 71. $x^2 + 4px + 4p^2 + 2x + 4p - 15$ | M-91 | 72. $3x^2 + 4qx - 4q^2 - 8pq - 3p^2$. | |
| 73. $a^2 - 2b^2 - 6c^2 + ab - 7bc + ca$. | | 74. $6x^2 - xy - 12y^2 - 4x - 11y - 2$. | |
| 75. $2y^2 - 5xy + 2x^2 - ty - tx - t^2$. | (V.V.Imp) | 76. $9a^2 + b^2 + 6c^2 - 6ab + 5bc - 15ac$ | M-94 |

G : Special Substitution

Class –IX

- | | | | |
|---|------|---|---------|
| 77. $x(x - 1)(x - 2) - 3x + 3$. | M-06 | 78. $(x^2 - 1)(x + 2)x - 8$. | |
| 79. $x(x + 1)(x + 2)(x + 3) - 24$ | M-05 | 80. $p(p - 1)(p - 2)(p - 3) - 120$ | M-03 |
| 81. $(x + 1)(x + 3)(x - 4)(x - 6) + 24$. | M-01 | 82. $(x - 1)(x - 2)(x + 3)(x + 4) - 36$ | M-94,93 |
| 83. $x(x - 1)(2x - 1)(2x - 3) - 6$ | M-90 | 84. $(x + 1)(x + 2)(3x - 1)(3x - 4) + 12$. | |

H : Last Term or Middle Term Breaking / vanishing method

- | | | | |
|----------------------------|------------|-----------------------|---------|
| 85. $x^3 + 2x + 3$. | M-00 | 86. $x^3 - 6x + 4$ | M-92 |
| 87. $x^3 + 5x - 6$ | M-98 | 88. $a^3 - 12a - 16$ | M-95 |
| 89. $x^3 - 7x - 6$. | M-06,05 | 90. $2a^3 - a^2 - 1$ | M-01,96 |
| 91. $x^3 - 3x + 2$ | M-99 | 92. $3y^3 + 2y + 5$. | M-03 |
| 93. $x^3 - 4x + 3$ | M-94 | 94. $2x^3 + 3x^2 - 1$ | M-94 |
| 95. $4x^3 + 4x^2 - 7x + 2$ | [1/2] M-85 | 96. $8x^3 + 4x - 3$. | |

I : Vanishing method OR Trial method

Only for Interested students

- | | | | |
|------------------------------|--------------|-------------------------------------|------------|
| 97. $27x^3 - 15x + 2$. | [2/3] Nar-06 | 98. $2a^3 + a^2 - 9a - 9$. | [- 3/2] |
| 99. $14x^3 - 4y^3 + 9x^2y$. | [y = 2x] | 100. $4(x - a)^3 - 27a^2(x - 2a)$. | [x = - 3a] |

J : Special Type

Only for Interested students

- | | | | |
|-------------------------------------|-------------------|-------------------------------------|----------------------|
| 101. $x^4 - 3x + 20$. | NN [K-178] | 102. $x^8 + 98x^4 + 1$. | PPR [K-179] |
| 103. $x^4 + 7x^3 + 8x^2 + 7x + 1$. | SL-86,81 [K-173] | 104. $x^3(x - 4) - x(x - 10) + 4$. | SL-84,83,82 [K-174] |

K : High Power Type

Only for Interested students

- | | | | |
|--|-----------------|--|--------------|
| 105. $x^5 + 4x^4 - 13x^3 - 13x^2 + 4x + 1$. | SL-83,80 [K-] | 106. $x^{19} - x^{17} + x^{10} + x^8 + 1$. | PPR [K-190] |
| 107. $x^{35} + x^{19} + x^{17} + x^2 - 1$. | Rah-93 [K-106] | 108. $x^{101} + x^{52} + x^{50} + x^2 - 1$. | [K-172] |

Giving xerox of these sums is strictly prohibited

Extra Sum

109. $2a^2b^2 + 18a^2 + 18b^2 - a^4 - b^4 - 81$ SCh-92 [K-84]
110. $x^2 - 56\frac{56}{29}x - 4$. Hind-93 [K-107,P-54]
111. $\sqrt{3}y^2 - 11y - 6\sqrt{3}$. Mid-93 [K-109,P-54]
112. $a^3 + \frac{1}{a^3} + \frac{26}{27}$ Hind-98 [K-129,P-62]
113. $(x + 2)(2x + 1)(5x + 2) - 3x^4$. Hare-98 [K-131,P-63]
114. $(x - 1)(x - 2)(x - 3) - 120$. Bidhan-98 [K-132,P-63]
115. $(a^2 + a)x^2 + x - (a^2 - 1) + 3ax$. Naba-98 [K-133,P-70]
116. $2x^3 + (2a - 3b)x^2 - (2b + 3ab)x + 3b^2$. [K-192,P-92]
117. $99a^2 - 202ab + 99b^2$ Poura-07