SSC CHSL Number System Quick Maths Formulas

1. 1 + 2 + 3 + 4 + 5 + … + n = n(n + 1)/2

2. (12 + 22 + 32 + ... + n2) = n (n + 1) (2n + 1) / 6

3. (13 + 23 + 33 + ... + n3) = (n(n + 1)/ 2)2

4. Sum of first n odd numbers = n2

5. Sum of first n even numbers = n (n + 1)

6. (a + b)*(a - b) = (a2 - b2)

7. (a + b)*2 = (a2 + b2 + 2ab)

8. (a - b)*2 = (a2 + b2 - 2ab)

9. (a + b + c)*2 = a2 + b2 + c2 + 2(ab + bc + ca)

10. (a3 + b3) = (a + b)*(a2 - ab + b2)

11. (a3 - b3) = (a - b)*(a2 + ab + b2)

12. (a3 + b3 + c3 - 3abc) = (a + b + c)*(a2 + b2 + c2 - ab - bc - ac)

13. When a + b + c = 0, then a3 + b3 + c3 = 3abc

14. (a + b)*n = an + (nC1)*an-1b + (nC2)*an-2b2 + … + (nCn-1)*abn-1 + bn.