Table 5. The series expansion of the Legendre summation equations with around point when . The leading term is retained here.

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| ID | about | About | About |
| 1 | 1/s | -1/s^2 | 2/s^3 |
| 2 | -1/(2s) | 1/(2s^2) | -1/s^3 |
| 3 | -1/s^3 | 3/s^4 | -12/s^5 |
| 4 | 3/(2s^3) | -9/(2s^4) | 18/s^5 |
| 5 | ln(2/s) | -1/s | 1/s^2 |
| 6 | ln(2/s) | -1/s | 1/s^2 |
| 7 | -1+ln(2/s) | -1/s | 1/s^2 |
| 8 | -3/s^4 | 12/s^5 | -60/s^6 |
| 9 | -1/(2s^2) | 1/s^3 | -3/s^4 |
| 10 | 1/s^2 | -2/s^3 | 6/s^4 |
| 11 | 1/s | -1/s^2 | 2/s^3 |
| 12 | 1/s | -1/s^2 | 2/s^3 |
| 13 | 1 | -3/4+ln(4)/4-ln(s)/2 | -1/(2s) |
| 14 | -3/(2s^3) | 9/(2s^4) | -18/s^5 |
| 15 | 3/s^3 | -9/s^4 | 36/s^5 |
| 16 | 2/s^2 | -4/s^3 | 12/s^4 |
| 17 | 2/s^2 | -4/s^3 | 12/s^4 |
| 18 | 2/s^2 | -4/s^3 | 12/s^4 |
| 19 | 1/s | -1/s^2 | 2/s^3 |