

1. $1 + 2 + 3 + \dots + n = \frac{n(n+1)}{2}$
 2. $1^2 + 2^2 + 3^2 + \dots + n^2 = \frac{n(n+1)(2n+1)}{6}$
 3. $1^3 + 2^3 + 3^3 + \dots + n^3 = \left(\frac{n(n+1)}{2}\right)^2$
 4. $1^4 + 2^4 + 3^4 + \dots + n^4 = \frac{n(n+1)(2n+1)(3n^2+3n-1)}{30}$
 5. $1^5 + 2^5 + 3^5 + \dots + n^5 = \frac{n^2(n+1)^2(2n^2+5n+3)}{12}$
 6. $1^6 + 2^6 + 3^6 + \dots + n^6 = \frac{n(n+1)(2n+1)(3n^4+6n^3-3n^2-2n+1)}{42}$
 7. $1^7 + 2^7 + 3^7 + \dots + n^7 = \frac{n^2(n+1)^2(2n^4+7n^3+7n^2-2n-1)}{24}$
 8. $1^8 + 2^8 + 3^8 + \dots + n^8 = \frac{n(n+1)(2n+1)(3n^6+12n^5+14n^4-6n^3-2n^2-4n+4)}{90}$
 9. $1^9 + 2^9 + 3^9 + \dots + n^9 = \frac{n^2(n+1)^2(2n^6+9n^5+13n^4-2n^3-4n^2-2n+1)}{45}$
 10. $1^{10} + 2^{10} + 3^{10} + \dots + n^{10} = \frac{n(n+1)(2n+1)(3n^8+15n^7+22n^6-10n^5-15n^4-6n^3+6n^2+6n-2)}{110}$

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