

2. (Ramanujan) $1/\pi \approx \frac{2\sqrt{2}}{9801} \sum_{k=0}^{21} \frac{(-1)^k (6k)! (13591409 + 54514034k)}{(3k)! (k!)^3 640320^{3k+3/2}}$

3. (Gregory Leibnitz) $\pi \approx 4 \sum_{n=0}^{1000} \frac{(-1)^n}{2n+1}$

Hint: The math module has a function factorial that calculates directly the factorial: e.g.: `math.factorial(3*k)`.