

Homework — Geometric & Arithmetic Series

1. $2 + 4 + 6 + \dots + 122 + 124$

2. $1 - \frac{1}{2} + \frac{1}{4} - \frac{1}{8} + \frac{1}{16} - \dots$

3. $7 + 17 + 27 + 37 + \dots + 167 + 177$

5. $1 + \frac{1}{7} + \frac{1}{7^2} + \frac{1}{7^3} + \dots$

6. $2 + \frac{2}{9} + \frac{2}{9^2} + \frac{2}{9^3} + \dots$

23. Sum $2 + 4 + \frac{1}{2} + \frac{1}{4} + \frac{1}{8} + \dots$.

24. Sum $1 + 1/2 + 1/3 + 1/3^2 + 1/3^3 + \dots$.

9. You wish to draw \$10,000 out of a Swiss bank account at age 65, and thereafter you want to draw $\frac{3}{4}$ as much each year as the preceding one. Assuming that the account earns no interest, how much money must you start with to be prepared for an arbitrarily large life span?