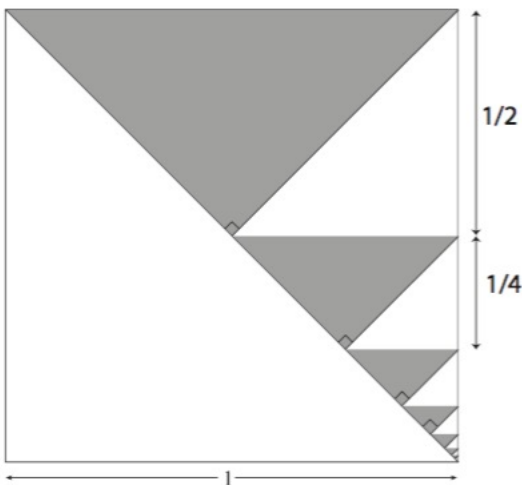


1. Find the tenth partial sum S_{10} for the series $\sum_{n=1}^{\infty} (-1)^{n+1}$
2. Does the series $\sum_{n=1}^{\infty} n \sin\left(\frac{1}{n}\right)$ converge? Why or why not?
3. Does the series $\sum_{n=1}^{\infty} \frac{2n^2 + 3n - 1}{4n^2 + 1}$ converge? Why or why not?
4. Find the sum of the geometric series $1 + \frac{1}{4} + \frac{1}{16} + \dots$.
5. Find the sum of the geometric series $2 - \frac{4}{3} + \frac{8}{9} - \frac{16}{27} + \dots$.
6. Determine if the series $\sum_{n=1}^{\infty} \frac{2}{5^n}$ converges. If so, find the sum.
7. Determine if the series $\sum_{n=1}^{\infty} \frac{2^n + 3^{n-1}}{4^{n+1}}$ converges. If so, find the sum.
8. Determine if the series $\sum_{n=1}^{\infty} \frac{2^{3n+5}}{3^{2n-7}}$ converges. If so, find the sum.
9. Determine if the series $\sum_{n=1}^{\infty} \frac{1}{n(n+2)}$ converges. If so, find the sum.
10. Determine if the series $\sum_{n=1}^{\infty} \left(\frac{1}{\sqrt{n+1}} - \frac{1}{\sqrt{n+2}} \right)$ converges. If so, find the sum.
11. Compute the sum of the shaded areas for the figure below (note that the figure is a square)



12. The n th partial sum of a series $\sum_{i=1}^{\infty} a_i$ is $s_n = \frac{n-2}{n+2}$

(a) Find $\sum_{i=1}^{\infty} a_i$

(b) Find a_1

(c) Find a formula for a_n for $n > 1$

13. Find the values of x for which the series converges: $\sum_{n=1}^{\infty} \frac{(3x-1)^n}{2^{n+3}}$