

Section 11.2: Additional Problems

1) Determine if this series is convergent or divergent. If the series is convergent, then give the sum of the series.

$$\sum_{i=1}^{\infty} \frac{1}{i(i+3)}$$

2) Use a geometric series to express $3.1\overline{53}$ as a ratio of integers.

3) Determine if the series is convergent or divergent. If convergent, then give the sum of the series.

A) $\sum_{n=1}^{\infty} (-5)^{n+2} 4^{-n}$

B) $\sum_{i=3}^{\infty} 60 \left(\frac{1}{2}\right)^i$

C) $\sum_{n=2}^{\infty} 10 * \frac{2^{3n-1}}{5^{n+4}}$

D) $\sum_{i=1}^{\infty} (e^{i-1} - e^{(i+2)^{-1}})$

4) Assume that the n -th partial sum of the series $\sum_{n=1}^{\infty} a_n$ is given by $s_n = \frac{2n+1}{5n+2}$.

A) Does the series converge or diverge? If the series is convergent, then give the sum of the series.

B) Find the formula for a_n .