Each problem is worth 5 points. Clear and complete justification is required for full credit.

1. Find the sum of the geometric series $2 - \dfrac{4}{5} + \dfrac{8}{25} - \dfrac{16}{125} + \dfrac{32}{625} - \ldots$.

2. Find the first 4 partial sums of the series $\displaystyle\sum_{n=1}^{\infty} \dfrac{1}{n^2 - 2n + 3}$.