Geometric Sequences and Infinite Series - Worksheet

NAME:
DATE:

1. Show that the sequence $\left\{ \left(\frac{2}{5} \right)^n \right\}$ is geometric and find the common ratio.

2. Find the sum

$$\sum_{n=1}^{6} 4 \left(\frac{1}{7} \right)^n$$

3. Find the sum of the given infinite series

   (a) $\displaystyle\sum_{n=1}^{\infty} \left(-\frac{1}{2} \right)^n$

   (b) $\dfrac{1}{2} + \dfrac{1}{6} + \dfrac{1}{18} + \cdots$