(11.2) Infinite Series

Full Name: _____

1. Determine if the series converges or diverges. If it converges, determine its sum.

   (a) $\displaystyle\sum_{n=0}^{\infty} \frac{4n^2+3n}{-2n^2+20}$

   (b) $\displaystyle\sum_{n=0}^{\infty} \left(\frac{2}{3}\right)^n$

   (c) $\displaystyle\sum_{n=0}^{\infty} \left(\frac{5}{4}\right)^n$

   (d) $2 - \dfrac{1}{2} + \dfrac{1}{8} - \dfrac{1}{32} + \dfrac{1}{128} - \cdots$

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

   (f) $\displaystyle\sum_{n=3}^{\infty} \left(\frac{1}{n} - \frac{1}{n+2}\right)$