Worksheet 11.2

Full Name: _____ Score: _____

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

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

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

(c) $\sum_{n=0}^{\infty} 5\left(-\frac{3}{4}\right)^n$

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

(e) $2 - \frac{1}{2} + \frac{1}{8} - \frac{1}{32} + \frac{1}{128} - \cdots$

(f) $2 - 1 + 1 - \frac{1}{2} + \frac{1}{2} - \frac{1}{3} + \frac{1}{3} - \frac{1}{4} + \cdots$

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

(h) $\displaystyle\sum_{n=0}^{\infty}\left(e^{\frac{1}{n}}-e^{\frac{1}{n+1}}\right)$

(i) $\displaystyle\sum_{n=1}^{\infty}\frac{2}{n^2+n}$

(j) $\displaystyle\sum_{n=2}^{\infty} \frac{6n+3}{n^4+2n^3+n^2}$