Written Homework 7

MAC 2312

July 6, 2015

1. Determine if the series converges or diverges.
   [Assigned June 29, 2015, due in class June 30, 2015]
   \[ \sum_{n=2}^{\infty} \frac{(n + 3)^{2n}}{(n^2 - 3)^{3n}} \]

2. Determine if the series converges or diverges.
   [Assigned June 30, 2015, due in class July 2, 2015]
   \[ \sum_{n=0}^{\infty} \frac{2^{2n}}{n!} \]

3. Determine if the series converges or diverges.
   [Assigned June 30, 2015, due in class July 2, 2015]
   \[ \sum_{n=2}^{\infty} \frac{2^n}{e^{2n}} \]

4. Determine the radius of convergence and the interval of convergence of
   the series. [Assigned July 2, 2015, due in class July 6, 2015]
   \[ \sum_{n=1}^{\infty} \frac{(-1)^n x^n}{n^2} \]

List Continues ↓
5. Determine the radius of convergence and the interval of convergence of the series. [Assigned July 2, 2015, due in class July 6, 2015]

\[
\sum_{n=1}^{\infty} n^n x^n
\]

6. Determine the radius of convergence and the interval of convergence of the series. [Assigned July 2, 2015, due in class July 6, 2015]

\[
\sum_{n=0}^{\infty} \frac{(x - 2)^n}{n^2 + 1}
\]

7. Determine the radius of convergence and the interval of convergence of the series. [Assigned July 2, 2015, due in class July 6, 2015]

\[
\sum_{n=1}^{\infty} \frac{3^n(x - 4)^n}{\sqrt{n}}
\]