

Solutions to Week in Review 10

1. a.) $I = [-\frac{1}{2}, \frac{1}{2}]$, $R = \frac{1}{2}$

b.) $I = (\frac{1}{3}, \frac{2}{3}]$, $R = \frac{1}{6}$

c.) $I = \{-2\}$, $R = 0$

d.) $I = (-\infty, \infty)$, $R = \infty$

2. a.) $\sum_{n=0}^{\infty} 5^n x^n$, $R = \frac{1}{5}$

b.) $\sum_{n=0}^{\infty} (-1)^n 4^n x^{2n}$, $R = \frac{1}{2}$

c.) $\sum_{n=0}^{\infty} \frac{x^{n+2}}{3^{2n+1}}$, $R = 9$

d.) $\ln 4 + \sum_{n=0}^{\infty} \frac{(-1)^n x^{n+1}}{4^{n+1}(n+1)}$, $R = 4$

e.) $\sum_{n=0}^{\infty} \frac{(-1)^n 2^{2n+1} x^{2n+2}}{2n+1}$, $R = \frac{1}{2}$

f.) $\sum_{n=0}^{\infty} 2^n (n+1) x^n$, $R = \frac{1}{2}$

3. $\sum_{n=0}^{\infty} \frac{(-1)^n}{5n+1}$