Custom Calculus Test Solutions

Solution to Problem 1

Find the sum of the series: $\sum_{n=0}^{\infty} \frac{x^n}{n!}$

$$e^x$$

Solution to Problem 2

Find the sum of the series: $\sum_{n=0}^{\infty} x^n$

$$\begin{cases} -\frac{1}{x-1} & \text{for } x > -1 \wedge x < 1 \\ \sum_{n=0}^{\infty} x^n & \text{otherwise} \end{cases}$$

Solution to Problem 3

Find the sum of the series: $\sum_{n=0}^{\infty} x^n$

$$\begin{cases} -\frac{1}{x-1} & \text{for } x > -1 \wedge x < 1 \\ \sum_{n=0}^{\infty} x^n & \text{otherwise} \end{cases}$$