

MATH 130A Review: Euler Number and Limits

1. Determine the exact limit value of the expression (Hint: write the expression using Σ -notation)

$$1 + \frac{i}{1!} + \frac{-1}{2!} + \frac{-i}{3!} + \frac{1}{4!} + \frac{i}{5!} + \frac{-1}{6!} + \cdots$$

2. Determine the exact limit value of the expression

$$\lim_{n \rightarrow \infty} \left(1 + \frac{1}{2n}\right)^n$$