

Quiz 8

Name:

1. Integrate

$$\int \frac{1}{x^3 - 1} dx$$

2. Does the sequence $a_n = \left(1 + \frac{2}{n}\right)^n$ converge and to what?

3. Determine whether the following series converge or diverge:

$$\bullet \sum_{n=1}^{\infty} \sin\left(\frac{1}{n}\right)$$

$$\bullet \sum_{n=1}^{\infty} \frac{n^7 7^n}{n!}$$

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

$$\bullet \sum_{n=1}^{\infty} \frac{6^n}{5^n - 1}$$

$$\bullet \sum_{n=1}^{\infty} \frac{n}{n^2 + 1}$$

$$\bullet \sum_{n=1}^{\infty} (-1)^n e^{-n}$$