

Worksheet 5

Name:

1. The integral $\int_1^{\infty} \frac{x}{x^4 + 1} dx$

(a) Converges

(b) Diverges

2. The integral $\int_2^{\infty} \frac{x^2}{x^4 + 1} dx$

(a) Converges

(b) Diverges

3. The integral $\int_1^{\infty} \frac{x^3 + 1}{x^4 + 1} dx$

(a) Converges

(b) Diverges

4. The integral $\int_5^{\infty} \frac{t - \sqrt{t} + 4}{\sqrt{t} + 4} dx$

(a) Converges

(b) Diverges

5. Show that $\int_0^1 \frac{1}{\sqrt{t} + t} dt$ converges