

QUIZ 10

1. (8 points) Which of the following integrals are improper? If an integral is improper, identify what makes it improper.

$$\int_{-1}^1 \frac{1}{x^5} dx$$

$$\int_4^{\infty} 3e^{-x/2} dx$$

$$\int_0^{\pi/4} \frac{5}{1 - \sin x} dx$$

$$\int_0^1 \frac{4x}{\sqrt{x^2 - 1}} dx$$

2. (2 points) Does the following integral converge or diverge?

$$\int_1^{\infty} \frac{1}{x\sqrt{x}} dx$$