

# Explain why each integral is improper and determine if the integral converges or diverges

1.  $\int_1^{\infty} \frac{1}{x^3} dx$

4.  $\int_0^1 \frac{1}{x^3} dx$

2.  $\int_1^{\infty} \frac{1}{x} dx$

5.  $\int_0^1 \frac{1}{\sqrt{x}} dx$

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

6.  $\int_0^1 \frac{1}{x} dx$