

Calculus Chapter 8 Review

Name _____

1) $\lim_{x \rightarrow \infty} \frac{\ln x}{x^2}$

2) $\lim_{x \rightarrow 0} \frac{x}{\tan^{-1}(4x)}$

3) $\lim_{x \rightarrow \infty} \frac{(\ln x)^2}{x}$

Evaluate the given integrals.

4) $\int_0^2 \frac{xdx}{\sqrt{4-x^2}}$

5) $\int_0^{3\sqrt{3}} \frac{dx}{9+x^2}$

$$6) \int \frac{dx}{x^2 \sqrt{4+x^2}}$$

$$7) \int \frac{3x^3 - 5x^2 + x - 1}{(x^2 + 1)(x - 1)^2} dx$$