

**Calculus—Worksheet #77**

1.  $\int \pi x^2 \sec^2 \left( \frac{\pi x^3}{3} \right) dx$

2.  $\int \frac{dr}{\sqrt[3]{(75r)^2}}$

3.  $\int \frac{2 \ln x}{x} dx$

4.  $\int \frac{\sin 3x}{52 \cos 3x} dx$

5.  $\int \frac{3}{x^1} dx$

6.  $\int \frac{x^4}{x^5 + 4} dx$

7.  $\lim_{n \rightarrow 8} \left( 1 + \frac{1}{n} \right)^n =$