

# Find the following integrals, verify your answer by taking the derivative

1.  $\int 7x e^{x^2} dx$ , Let  $u = x^2$

2.  $\int \frac{\sin(x)}{\cos(x)} dx$ , Let  $u = \cos(x)$

3.  $\int \frac{1}{x \ln(x)} dx$ , Let  $u = \ln(x)$

4.  $\int \frac{\sin(\sqrt{x})}{\sqrt{x}} dx$ , Let  $u = \sqrt{x}$

5.  $\int_0^\pi \sin(x) e^{\cos(x)} dx$

6.  $\int \frac{\ln(x)}{x} dx$

7.  $\int \frac{e^x}{1+e^x} dx$

8.  $\int \frac{1+e^x}{e^x} dx$

9.  $\int x\sqrt{x+1} dx$