

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