Math 226: Quiz 2 Questions

Questions:

(1) Find the derivative.

A: $e^{\sin(x)} + \log_4(x^2 + 3)$

B: $\sqrt{\ln(x)} - \ln(\sqrt{x})$

C: $\ln(\frac{1}{x}) + e^{-\ln(\frac{1}{x})}$

(2) Find the derivative.

A: x^{e^x}

B: $(\tan(x))^{x^2}$

C: $\sqrt[x]{x}$

(3) Evaluate the integral.

A: $\displaystyle\int \frac{2^{\ln(x)}}{x}\, dx$

B: $\displaystyle\int e^{2x} \sqrt[3]{e^{2x} + 2}\, dx$

C: $\displaystyle\int \frac{x}{x^2 + 4}\, dx$

(4) Evaluate the integral.

A: $\displaystyle\int e^{x + e^x}\, dx$

B: $\displaystyle\int \cot(x)\, dx$

C: $\displaystyle\int \frac{\ln(x^3)}{x}\, dx$