

Homework 3 - Math 142

Name: _____

Bring your solutions to these problems to class on Friday. You can use them during the quiz.

1. Find the antiderivative of $\sqrt{e^x}$.

2. Compute $\frac{d}{dx} \frac{1}{1 + e^x}$.

3. Compute $\int_0^\pi \cos x e^{\sin x} dx$.

4. Use a reference triangle to find $\sin(\sec^{-1}(\sqrt{5}))$

5. Use a reference triangle to simplify $\cos(\tan^{-1}(2x))$.

6. Find the derivative of $\sin^{-1}(x/2)$.

7. Compute $\frac{d}{dx} \arctan(e^x)$.

8. Find the x-value of the maximum for the function $f(x) = x^3 e^{-x}$.
