

Problem 1: §5.3 #14

Work:

Answer:  $\int_0^{\pi/4} \sec \theta \tan \theta \, d\theta =$

Problem 2: §5.3 #22

Work:

Answer:  $\int_0^1 \frac{4}{t^2 + 1} \, dt =$

Problem 3: §5.4 #16

Work:

Answer:  $\frac{d}{dx} \left( \int_{e^x}^0 \sin^3(t) \, dt \right) =$

**Problem 4: §5.5 #34**

**Work:**

**Answer:**  $\int \frac{\sin x}{1 + \cos^2 x} dx =$

**Problem 5: §5.5 # 48**

**Work:**

**Answer:**  $\int_0^{\pi/2} \cos x \sin(\sin x) dx =$

**Problem 6: §5.6 # 12**

**Work:**

**Answer:**  $\int \arcsin x dx =$

**Problem 7: §5.6 #18**

**Work:**

**Answer:**  $\int_4^9 \frac{\ln y}{\sqrt{y}} dy =$