Name: \_\_\_\_\_

Section: \_\_\_\_\_

Clear your desk of everything except pens, pencils and erasers. Show all your work. If you have a question raise your hand and I will come to you.

1. (3 points) What is the area of the region bounded by the graph of  $y = e^x$  and the x-axis between x = 0and  $x = \ln 2$ ?

2. (3 points) Evaluate the following integral.

$$\int \left(\frac{1}{2}\right)^{\cos\left(x\right)} \sin\left(x\right) dx$$

3. (4 points) Find the function y = y(x) which satisfies the initial value problem

$$\frac{dy}{dx} = \frac{\sin x}{2y} \qquad y(0) = -2$$