WRITE YOUR NAME:

MAC 2312 WRITTEN HOMEWORK #2

Due Tuesday January 23rd, in Canvas

Question 1. Evaluate the integral.

$$\int \cos 2x \, dx$$

Question 2. Given the following trigonometric identities

$$\sin^2 x = \frac{1}{2}\big(1 - \cos 2x\big) \qquad\qquad \cos^2 x = \frac{1}{2}\big(1 + \cos 2x\big)$$

use them to evaluate both of the following integrals.

$$\int_0^{\pi/2} \sin^2 x \, dx$$

$$\int_0^{\pi/2} \cos^2 x \, dx$$

Question 3. Evaluate the integral.

$$\int \frac{e^{\sqrt{x}}}{\sqrt{x}}\, dx$$

Question 4. Evaluate the integral.

$$\int_0^3 \frac{2x-1}{x+1}\,dx$$