

Name: _____

Score: _____

1. Pick TWO of the following integrals and evaluate them. (6 points total)

Evaluate three integrals for a bonus point!

$$\int_0^2 \sqrt{4x - x^2} dx, \int_{-1}^1 \frac{e^{\sin^{-1} x}}{\sqrt{1 - x^2}} dx, \int_0^\pi x \sin x \cos x, \int_0^{\pi/2} \left| \frac{1}{2} - \sin x \right| dx$$

2. Estimate the integral $\int_0^4 e^{-x^2} dx$ using (a) the Midpoint Rule, (b) the Trapezoidal Rule, (c) Simpson's Rule, each with $n = 4$. (4 points)