MATH 152 **QUIZ 5A** NAME _____

Mrs. Bonny Tighe 25 points

8.5, 8.6,8.7 SECTION _____ Wed 10/12/05

1. Evaluate the integrals.

a) $\int x\,(3^x)\,dx$

b) $\int x\sqrt{1-x^4}\,dx$

c) $\int_0^{\pi/4} \cos^3 \vartheta\, d\vartheta$

d) $\int \frac{x^2}{(x+2)^2}\,dx$

2. Use (a) the Midpoint Rule (b) the Trapezoidal Rule and (c) Simpson's Rule to approximate the given integral with the specified value of n. Estimate the errors in the approximations M_4 and T_4 given the following: Suppose $|f''(x)| \le K$ *for* $a \le x \le b$,

$|E_T| \le \frac{K(b-a)^3}{12n^2}$ *and* $|E_M| \le \frac{K(b-a)^3}{24n^2}$.

$\int_0^{1/2} \sin(x^2)\, dx, \quad n = 4$