

NAME:

SECTION: (circle one) 11:00-11:55 12:05-1:00

Math 105 - Quiz 10 - November 30, 2005

Instructions: Show all of your work and circle your final answers. Calculators are allowed, but notes and books are not.

1. (7 pts. each) Calculate the following integrals:

(a) $\int_0^3 (2 + 2r) dr$.

(b) Suppose, for a function $f(x)$ that $\int_0^1 f(x) dx = 3$, $\int_0^2 f(x) dx = 1$, and $\int_2^4 f(x) dx = -5$.
Calculate $\int_0^4 f(x) dx$.

2. The Intermediate Value Theorem states that if $f(x)$ is continuous on the interval $[a, b]$, then for any value y between $f(a)$ and $f(b)$, there is a number c in $[a, b]$ such that $f(c) = y$.

(a) (6 pts.) Let $f(x) = 1/x$. Although $f(-1) = -1$ and $f(1) = 1$, there is no value of c for which $f(c) = 0$. Why doesn't this contradict the IVT?