

Pledge:

11/4/2005
Dr. Lunsford

MATH261 Calculus I
Quiz 12

Name: _____
(20 Points Total)

I. Below you are given the graph of a function, f . Suppose the *area* of region A is $\frac{62}{15}$, the *area* of region B is $\frac{37}{120}$, and the *area* of region C is $\frac{53}{120}$.

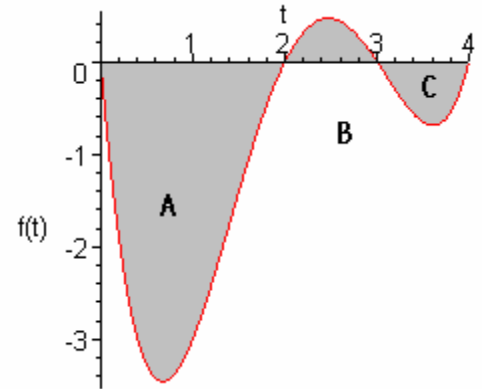
Define $g(x) = \int_2^x f(t) dt$. Find the indicated values (do not simplify your answers, just write them in terms of the areas given above.): (1 point each – 4 total)

(a) $g(4) =$

(b) $g(0) =$

(c) $\int_0^4 f(t) dt =$

(d) $\int_0^4 |f(t)| dt =$



II. Find the indicated integrals. Neatly show all of your work and clearly indicate your answers. (4 points each, 12 total)

(a) $\int_0^1 x(\sqrt[3]{x} + \sqrt[4]{x}) dx$

(b) $\int_{-1}^3 2w^2 dw$

(c) $\int_1^e \frac{1}{2x} dx$

III. If $h(x) = \int_3^{\sqrt{x}} \frac{\cos t}{t} dt$, then find $h'(x)$. (4 points)