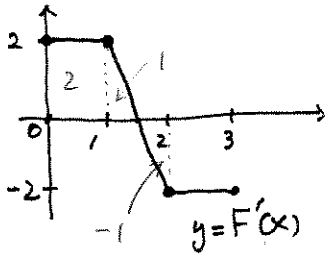
**HONOR 2201, CALCULUS FOR NON-SCIENCE MAJORS, QUIZ 7, 11/04/05**

Name : Solution Student ID # : _____

1.(5 pts) Find $F(2)$ if $F(0) = 1$ and the graph of $F'(x)$ is given below.




$$F(2) = F(0) + \int_0^2 F'(x)\,dx$$

$$= 1 + (2 + 1 - 1)$$

$$= 1 + 2$$

$$= \boxed{3}$$

2. (each 5 pts) Find the following indefinite integrals.

(1) $\int \frac{\cos x}{\sin x} dx =$ $\int \frac{1}{u}\,du = \ln|u| + C = \boxed{\ln|\sin x| + C}$

let $u = \sin x$

$du = \cos x\,dx$, by substitution

(2) $\int xe^x dx =$ $uv - \int u'v\,dx = x \cdot e^x - \int 1 \cdot e^x\,dx$

$u = x \Rightarrow u' = 1$

$v' = e^x \Rightarrow v = e^x$

by Integration by parts

$= xe^x - \int e^x\,dx$

$= \boxed{xe^x - e^x + C}$