

**Project Based Math 112, Fall 2001**  
**Activity #3 — Barehands Integration**

1. Using the definition of the definite integral, calculate  $\int_0^b c \, dx$  (where  $c$  is a constant).

2. Use this to find  $F_1(h)$ , where  $F_1(h) = \int_0^h c \, dx$  (where  $c$  is a constant).

3. Use the definition of the definite integral to calculate  $\int_a^b c \, dx$  ( $c$  is still a constant).

4. Express the answer to (3) in terms of  $F_1$ .

OVER  $\implies$

5. Using the definition of the definite integral, calculate  $\int_0^b x \, dx$ .

6. Use this to find  $F_2(h)$ , where  $F_2(h) = \int_0^h x \, dx$ .

7. Use the definition of the definite integral to calculate  $\int_a^b x \, dx$ .

8. Express the answer to (7) in terms of  $F_2$ .