

M 191

Lect #27

5-2-11

$$\text{Since } \frac{d}{dx} \cos^{-1} x = - \frac{1}{\sqrt{1-x^2}}$$

$$\int \frac{1}{\sqrt{1-u^2}} du = - \cos^{-1} u + C$$

or

$$= \sin^{-1} u + C$$

$$\underline{\text{Ex}} \int - \frac{1}{\sqrt{\left(\frac{9-x^2}{9}\right) 9}} dx = - \int \frac{dx}{3 \sqrt{1-\left(\frac{x}{3}\right)^2}}$$

$$= - \int \frac{du}{\sqrt{1-u^2}} = \left[\cos^{-1} u \right]_{x=0}^{\frac{1}{2}} \quad u = \frac{x}{3} = \frac{1}{3} x$$
$$du = \frac{1}{3} dx$$

$$= \left[\cos^{-1} \frac{x}{3} \right]_0^{\frac{1}{2}} = \cos^{-1}\left(\frac{1}{6}\right) - \cos^{-1}(0) = 1.40 - 1.57 = -0.17$$

How to prepare for the final exam
so that your circulation per unit area
is maximum.

- ① Prepare your reference card.
- ② Using your card to the max, re-write
all five hour tests. Return where necessary
- ③ Rewrite or Review the PS's
- ④ Eat & Sleep some.
- ⑤ For the last hour study only what
you know.