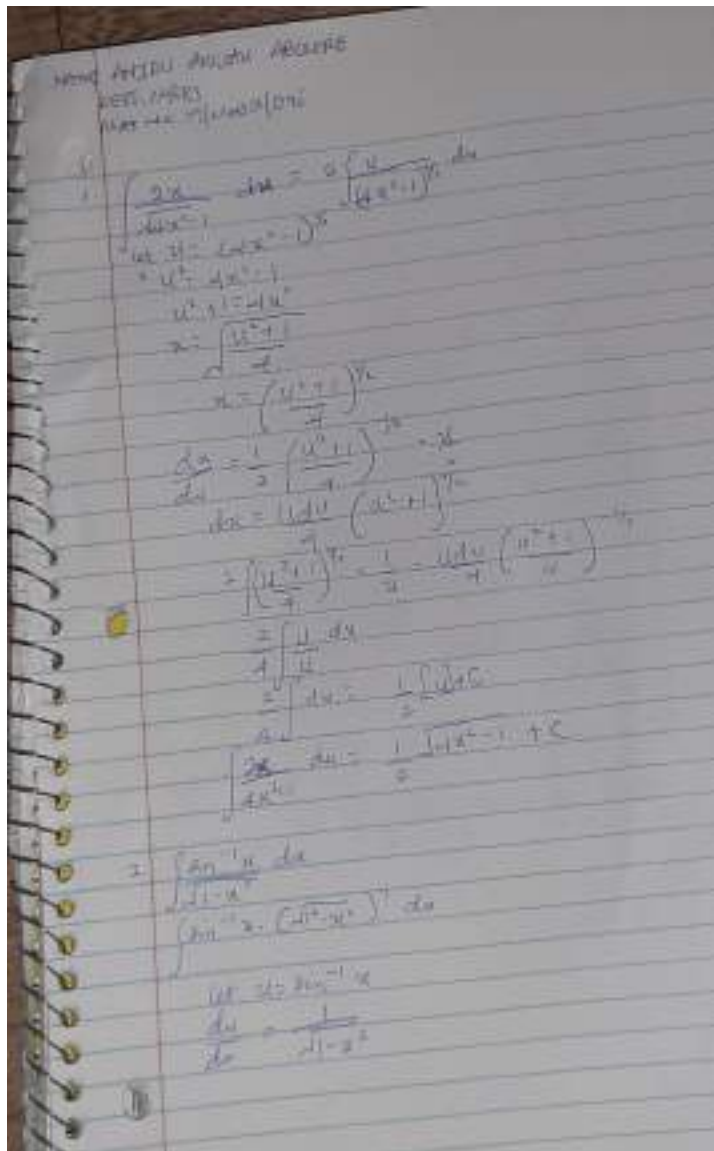


Name : Anidu Awwau Abolore

Mat no: 19/MHS01/095

Department: mbbs

MAT 104 Assignment



$$dx = \frac{du}{u^2}$$

$$dx = \frac{du}{u^2} \quad (u = \sqrt{1-x^2})$$

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

$$\int \frac{dx}{\sqrt{1-x^2}} = \frac{1}{\sqrt{1-x^2}} + C$$

$$\int (\tan x)^2 \sec^2 x dx$$

Answer

$$\text{let } u = \tan x$$

$$\frac{du}{dx} = \sec^2 x$$

or

$$dx = \frac{du}{\sec^2 x}$$

$$\int u^2 du$$

$$= \left[\frac{u^3}{3} \right] + C$$

$$\int (\tan x)^2 \sec^2 x dx = \frac{(\tan x)^3}{3} + C$$