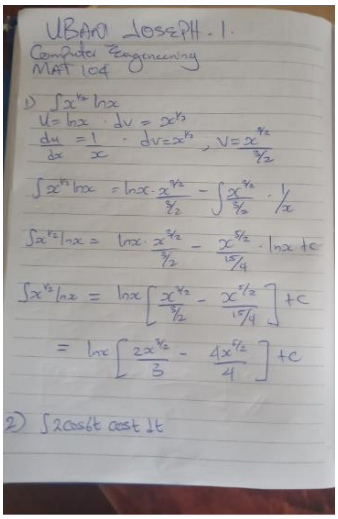
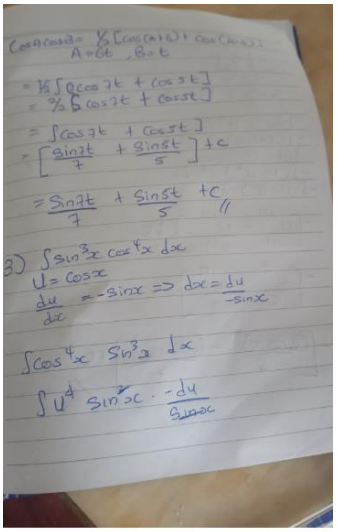
UBANI, JOSEPH IKECHUKWU

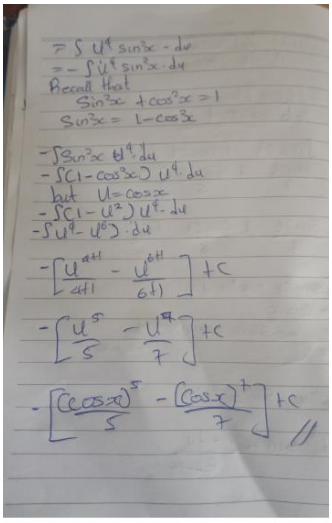
MAT 104

19/ENG02/066

COMP. ENGINEERING






$= \int u^4 \sin^3 x \cdot du$
$= -\int u^4 \sin^3 x \cdot du$
Recall that
$\sin^2 x + \cos^2 x = 1$
$\sin^2 x = 1 - \cos^2 x$
$-\int \sin^2 x \, u^4 \, du$
$-\int (1 - \cos^2 x) \, u^4 \, du$
but $u = \cos x$
$-\int (1 - u^2) \, u^4 \, du$
$-\int (u^4 - u^6) \, du$
$-\left[\frac{u^{4+1}}{4+1} - \frac{u^{6+1}}{6+1}\right] + C$
$-\left[\frac{u^5}{5} - \frac{u^7}{7}\right] + C$
$-\left[\frac{(\cos x)^5}{5} - \frac{(\cos x)^7}{7}\right] + C$ //