NAME: NWAIWU SYLVESTER CHUCKWUKA.U

DEPARTMENT: MECHATRONICS

MATRIC NO: 19/ENG05/042

COURSE TITLE: GENERAL MATHEMATICS III

COURSE CODE: MAT 104

LECTURER: DR OYELAMI

 PRACTICE QUESTION ASSIGNMENT

1 . (11-3x) / x2+2x-3

 Solution

Let u = which gives

 = ln

 = ln

2 .

 Solution

 = ∫

 = ∫−

Since −1 is constant with respect to x, move -1 out of the integral

 = −∫ + ∫ + ∫

Since12 is constant with respect to x, move12 out of the integral.

 = − (12∫ + ∫ + ∫)

 Multiply 12 by −1

 −12∫ + ∫ + ∫

Let = X +1 Then = dx Rewrite using  and

 −12∫ + ∫ + ∫

The integral of  with respect to  is ln (|u1|)

−12(ln(||)+C)+ ∫ + ∫

Since 9 is constant with respect to x, move 9 out of the integral.

 −12(ln(||)+C)+ 9 ∫ + ∫

Let = X +2 Then = dx Rewrite using  and

 = −12(ln(||)+C)+ 9 ∫ + ∫

The integral of  with respect to  is ln (||)

 = −12(ln(||)+C)+ 9(ln(||)+C)+ ∫

Since 5 is constant with respect to x, move 5 out of the integral.

 = −12(ln(||)+C)+ 9(ln(||)+C)+ 5∫

 =−12(ln(||)+C)+ 9(ln(||)+C)+ 5 ∫

 =−12(ln(||)+C)+ 9(ln(||)+C)+ 5(ln(||)+C)

 Simplify −12 ln(||) + 9 ln(||) + 5 ln(||) + C

 = −12 ln(|x+ 1|) + 9 ln(|x +2|) + 5 ln(|x + 3|) + C

3 . 1/(x2+121)

 Solution

 U=

 du =

therefore =

 =

 = ln

 = ln