Formula's : ~

1)
$$\sin x = \frac{\partial u}{1 + u^2}$$

1) $\sin (x/2) = \frac{u}{\sqrt{1 + u^2}}$

2) $\cos x = 1 - u^2$

1+ u^2

5) $\cos (x/2) = \frac{1}{\sqrt{1 + u^2}}$

3) $\tan x = \frac{\partial u}{1 - u^2}$

6) $dx = \frac{\partial du}{1 + u^2}$

7) $u = \tan (x/2)$

1- $\sin x + \cos x$

30: dx

1- $(\frac{\partial u}{1 + u^2})^{+(\frac{1 - u^2}{1 + u^2})}$

3 du

1 $\frac{\partial u}{1 + \frac{\partial u}{1 + u^2}}$

1 $\frac{\partial u}{1 + \frac{\partial u}{1 + u^2}}$

1 $\frac{\partial u}{1 + \frac{\partial u}{1 + u^2}}$

1 $\frac{\partial u}{1 + u^2}$

1 $\frac{\partial u}{1 + u^2}$

1 $\frac{\partial u}{1 + u^2}$

2 $\frac{\partial u}{1 + u^2}$

1 $\frac{\partial u}{1 + u^2}$

1 $\frac{\partial u}{1 + u^2}$

2 $\frac{\partial u}{1 + u^2}$

2 $\frac{\partial u}{1 + u^2}$

3 $\frac{\partial u}{1 + u^2}$

4 $\frac{\partial u}{1 + u^2}$

5 $\frac{\partial u}{1 + u^2}$

6 $\frac{\partial u}{1 + u^2}$

7 $\frac{\partial u}{1 + u^2}$

8 $\frac{\partial u}{1 + u^2}$

1 $\frac{\partial u}{1 + u^2}$

- In (1-u) +c - - In[1, +an(a/2)+c

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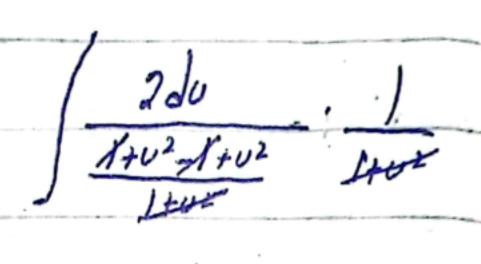
$$\int \frac{2 du}{2 + \frac{2u}{1 + u^2}} \frac{1}{1 + u^2}$$

$$\int \frac{2}{2t} \frac{du}{du}$$

$$\int \frac{du}{v^2 + v + 1}$$

$$\int \frac{dv}{v^2} + \int \frac{dv}{v} + \int dv$$

$$\int \frac{2du}{1-\left(\frac{1-u^2}{1+u^2}\right)} \frac{1}{1+u^2}$$



$$\frac{-1}{v} = \frac{-1}{4n(x/2)}$$

$$\int \frac{2}{4} \frac{dv}{1+v^2} - 3 \frac{1-v^2}{1+v^2} + v^2$$

$$\frac{-2}{30} - \frac{1}{4} \ln |u| + \frac{2}{3} u + c$$

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Gro) sinx Jx G69) Ja sinx + tanx Sol: $\frac{2u}{1+u^{2}} + \frac{2u}{1-u^{2}} + \frac{1+u^{2}}{1+u^{2}}$ $\frac{\left(\frac{2U}{1+U^2}\right)}{\frac{2U}{1+U^2}} dx$ \$ 20 Yu 84(1-02) dx Du (1-12) du (1-42) dy udu 76 (1-02) du In/u/-1 02+0 1 In (tanz/2) - 1 tan (2/2) te

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1 du 5 -u² du
1+u² 1+u²

tan'(u) # 1 # 1 du

tan'(u) - Slu + / 1 lu
1+v2

2 tan (u) - u + c

2+ dn' (+dn(2)) - +an 2/2+c

0

Ex 7.8

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