

$$\int \frac{2x+3}{x^2+3x} dx = \log |x^2+3x| + C$$

Solution:

$$\text{L.H.S.} = \int \frac{2x+3}{x^2+3x} dx$$

Putting, $x^2+3x = t$

So, $(2x+3) dx = dt$

$$\Rightarrow \int \frac{dt}{t} = \log |t| \Rightarrow \log |x^2+3x| + C = \text{R.H.S.}$$

$$\text{L.H.S.} = \text{R.H.S.}$$

- Hence proved.