TOBI FAVOUR EBIMOBOWEI

19/MHS01/407

1. $\int \frac{11-3x}{x^2+2x-3} = \frac{A}{(x-1)} + \frac{B}{(x+3)}$

$11-3x = A(x+3) + B(x-1)$

$f(1) \Rightarrow 11-3(1) = A(1+3) + B(1-1)$

$8 = 4A$

$A = 2$

$f(-3) \Rightarrow 11-3(-3) = A(-3+3) + B(-3-1)$

$20 = -4B$

$B = -5$

$$\int \frac{11-3x}{x^2+2x-3} = \int \frac{2}{(x-1)}\,dx + \int \frac{-5}{x+3}\,dx$$

$$= 2\ln(x-1) - 5\ln(x+3)$$