

Ex: Evaluate the following:

a) $\int \frac{11x+5}{6x^2+x-2} dx$

b) $\int \frac{43x - x^2 - 30}{x^3 - 2x^2 - 15x} dx$

c) $\int \frac{23x^2 + x + 23}{(x+1)(5x^2 + 4)} dx$

d) $\int \frac{2x^3 - 4x^2 - x - 3}{x^2 - 2x - 3} dx$

e) $\int \frac{x^2 dx}{(x-1)(x^2 + 2x + 1)}$

f)
$$\int \frac{e^{4t} + 2e^{2t} - e^t}{e^{2t} + 1} dt$$

g)
$$\int \frac{\sin x dx}{\cos^2 x + \cos x - 2}$$

Rationalizing Substitutions:

Ex: Evaluate the following:

a) $\int \frac{\sqrt{x+4}}{x} dx$

b) $\int \frac{1}{\sqrt[3]{x} + \sqrt[4]{x}} dx$