Universidade Veiga de Almeida

Curso: Básico das Engenhrarias

Disciplina: Cálculo Diferencial e Integral I

Professora: Adriana Nogueira

Respostas do exercício 2 da 10^a Lista de Exercícios

Exercício 2:

(a) $\int xsec^2xdx = xtgx + ln|cosx| + c$

(b) $\int x^2e^{-3x}dx = \frac{-x^2e^{-3x}}{3} - \frac{2xe^{-3x}}{9} - \frac{2e^{-3x}}{27} + c$

(c) $\int x^2lnxdx = \frac{x^3lnx}{3} - \frac{x^3}{9} + c$

(d) $\int sec^3xdx = \frac{1}{2}(secxtgx + ln|secx + tgx|) + c$

(e) $\int \sqrt{x}lnxdx = \frac{2}{9}x^{3/2}(3lnx - 2) + c$

(f) $\int xcsc^2xdx = -xcotgx + ln|senx| + c$

(g) $\int arctgxdx = xarctgx - \frac{1}{2}ln(1 + x^2) + c$

(h) $\int senxln(cosx)dx = (cosx)(1 - ln(cosx)) + c$

(i) $\int \frac{x^3}{\sqrt{1-x^2}}dx = -x^2\sqrt{1-x^2} - \frac{2}{3}(\sqrt{1-x^2})^3 + c$

(j) $\int x^2senxdx = -x^2cosx + 2xsenx + 2cosx + c$

(k) $\int x^3 cosx dx = x^3 senx + 3x^2 cosx - 6xsenx - 6cosx + c$

(l) $\int x^3 e^x dx = x^3 e^x - 3x^2 e^x + 6xe^x - 6e^x + c$