Lista 8

1. Calcule.

   (a) $\int_0^2 x(2 + x^5)dx$

   (b) $\int_1^9 \frac{x-1}{\sqrt{x}}dx$

   (c) $\int_0^{\frac{\pi}{4}} sec^2 t \; dt$

   (d) $\int_1^9 \frac{1}{2x}dx$

   (e) $\int_{-1}^1 e^{u+1}du$

   (f) $\int_1^4 ln\sqrt{x}dx$

   (g) $\int_0^1 te^{-t}dt$

   (h) $\int_0^1 xe^{-x^2}dx$

   (i) $\int_0^{\frac{\pi}{3}} sen^4 x cos x dx$

   (j) $\int_0^1 \frac{3}{2x+1}dx$

2. Calcule a área da região limitada pelo gráfico $f(x) = lnx$, o eixo x e a reta $x = 3$

Respostas:

1. (a) $\frac{156}{7}$

   (b) $\frac{40}{3}$

   (c) 1

   (d) $ln\,3$

   (e) $e^2 - 1$

   (f) $4ln2 - \frac{3}{2}$

   (g) $1 - \frac{2}{e}$

   (h) $\frac{1}{2}(1 - \frac{1}{e})$

   (i) $\frac{1}{5}(\frac{\sqrt{3}}{2})^5$

   (j) $\frac{3}{2}ln3$

2. $3ln3 - 2$ (u.a.)