

# Cálculo I - Lista 8 (Gabarito)

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1)  $dw = (3z^2 - 6z + 2)dz; -1,8$

2) 0,96

3)  $0,96\pi m^2$

4) 1,005 e o erro em valor absoluto é  $|\sqrt{1,01} - 1,005|$

5)  $0,8\pi m^2$

6a)  $1 - \frac{1}{2}(x - \frac{\pi}{2})^2$

6b)  $\frac{\sqrt{2}}{2} - \frac{\sqrt{2}}{2}(x - \frac{\pi}{4}) - \frac{\sqrt{2}}{4}(x - \frac{\pi}{4})^2 + \frac{\sqrt{2}}{12}(x - \frac{\pi}{4})^3 + \frac{\sqrt{2}}{48}(x - \frac{\pi}{4})^4$

6c)  $1 + 2(x - \frac{\pi}{4}) + 2(x - \frac{\pi}{4})^2 + \frac{8}{3}(x - \frac{\pi}{4})^3 + \frac{10}{3}(x - \frac{\pi}{4})^4$

6d)  $2 + \frac{1}{4}(x - 4) - \frac{1}{64}(x - 4)^2 + \frac{1}{512}(x - 4)^3$

7a)  $1 - \frac{1}{2}(\frac{\pi}{180})^2$

7b)  $\frac{\sqrt{2}}{2} - \frac{\sqrt{2}}{2}(\frac{\pi}{90}) - \frac{\sqrt{2}}{4}(\frac{\pi}{90})^2 + \frac{\sqrt{2}}{12}(\frac{\pi}{90})^3 + \frac{\sqrt{2}}{48}(\frac{\pi}{90})^4$

7d)  $2 + \frac{1}{4}0,3 - \frac{1}{64}(0,3)^2 + \frac{1}{512}(0,3)^3$

8) Erro absoluto  $< \frac{1}{48}$

9a) 2

9b)  $-\infty$

9c)  $\infty$

9d)  $\frac{1}{9}$

9e) 1

9f) 0