Cálculo II – Lista 1
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1. Resolva as integrais utilizando as substituições dadas:

a) $\int x^3(2 + x^4)^5\, dx, \quad u = 2 + x^4$

b) $\int \cos^3\theta \sin\theta\, d\theta, \quad u = \cos\theta$

c) $\int \frac{\sec^2(1/x)}{x^2}\, dx, \quad u = 1/x$

2. Resolva as integrais indefinidas:

a) $\int (x + 1)\sqrt{2x + x^2}\, dx$

b) $\int \frac{a + bx^2}{\sqrt{3ax + bx^3}}\, dx$

c) $\int \sec^2\theta \tan^3\theta\, d\theta$

d) $\int \sqrt{x} \sin(1 + x^{3/2})\, dx$

e) $\int x(2x + 5)^8\, dx$

3. Resolva as integrais definidas:

a) $\int_0^1 (3t - 1)^{50}\, dt$

b) $\int_0^{\pi/2} \cos x \sin(\sin x)\, dx$

c) $\int_0^a x\sqrt{x^2 + a^2}\, dx \quad (a > 0)$

d) $\int_0^4 \frac{x}{\sqrt{1 + 2x}}\, dx$