

Universidade Federal da
Paraíba
Departamento de
Matemática
Cálculo II
Lista de Exercícios 1
Período 2013 - I

maio 2013

Calcular as integrais a seguir:

1. $\int 5a^2 x^4 dx$
2. $\int (nx)^{\frac{1-n}{n}} dx$
3. $\int (a^2 - x^{2/3})^3 dx$
4. $\int \frac{x}{x-1} dx$
5. $\int (e^{x/a} - e^{-x/a}) dx$
6. $\int \frac{e^{1/x}}{x^2} dx$
7. $\int 5\sqrt{x} \frac{dx}{\sqrt{x}}$
8. $\int e^x \sqrt{a - be^x} dx$
9. $\int \frac{a^x}{1 + a^{2x}} dx$
10. $\int \operatorname{sen}(3x) \cos(5x) dx$
11. $\int \cos(\frac{x}{2}) \operatorname{sen}(\frac{x}{3}) dx$
12. $\int \frac{3x}{4 - 3x^2} dx$
13. $\int \frac{x^2}{(4x^3 + 1)^7} dx$
14. $\int \frac{\sqrt{1 + \sqrt{x}}}{\sqrt{x}} dx$
15. $\int (x + \frac{5}{x})(\frac{x^2 - 5}{x^2}) dx$
16. $\int \frac{t^2}{\sqrt{t+4}} dt$
17. $\int \cos(\sqrt{7}x) dx$
18. $\int (\frac{1}{3} \operatorname{sen}(2x) + \frac{1}{2} \cos(3x)) dx$
19. $\int (\operatorname{sen} x + \cos x)^2 dx$
20. $\int x\sqrt{x} dx$
21. $\int \frac{x^3 + 1}{x} dx$
22. $\int \sec^2 x dx$
23. $\int \tan^2 x dx$
24. $\int e^{\alpha x} dx$
25. $\int e^{-x} dx$
26. $\int x^5 \sqrt{1 - x^2} dx$

27. $\int \frac{\ln x}{x} dx$
28. $\int \frac{\operatorname{sen} x}{1 + \cos^2 x} dx$
29. $\int \frac{e^x}{e^x + 1} dx$
30. $\int x \operatorname{sen} x dx$
31. $\int e^x \cos x dx$
32. $\int \frac{1}{\sqrt{a^2 - b^2 x^2}} dx$
33. $\int e^x \operatorname{sen} x dx$
34. $\int \frac{1}{4 + x^2} dx$
35. $\int \frac{x^2}{\sqrt{9 - x^2}} dx$
36. $\int \frac{dx}{\sqrt{25x^2 - 4}} dx$
37. $\int \ln x dx$
38. $\int \cos^3 x dx$
39. $\int e^{-x} \cos x dx$
40. $\int \operatorname{sen}(\ln x) dx$
41. $\int s e^{4s} ds$
42. Veja mais exercícios em Thomas,
Mounem, Lang, Hovard, Guidorizzi,
etc.