Cálculo A

Integração por partes

Use integração por partes para resolver as integrais

1. $\int x\, e^{3x}\, dx$
2. $\int x \cos 2x\, dx$
3. $\int x \sec x\, \tan x\, dx$
4. $\int x\, 3^x\, dx$
5. $\int \ln x\, dx$
6. $\int \arcsin x\, dx$
7. $\int (\ln x)^2\, dx$
8. $\int x \sec^2 x\, dx$
9. $\int x \arctan x\, dx$
10. $\int x^2 \ln x\, dx$
11. $\int \dfrac{xe^x}{(x+1)^2}\, dx$
12. $\int x^2 \sin 3x\, dx$
13. $\int \sin x\, \ln\cos x\, dx$
14. $\int \sin(\ln x)\, dx$
15. $\int e^x\, \cos x\, dx$

1. $\frac{1}{3}e^{3x}\left(x-\frac{1}{3}\right)+C$

2. $\frac{1}{2}x\sin 2x+\frac{1}{4}\cos 2x+C$

3. $x\operatorname{tg}x-\ln|\cos x+\operatorname{tg}x|+C$

4. $\frac{1}{\ln 3}3^x\left(x-\frac{1}{\ln 3}\right)+C$

5. $x\ln x-x+C$

6. $x\arcsin x+\sqrt{1-x^2}+C$

7. $x(\ln x)^2-2x\ln x+2x+C$

8. $x\operatorname{tg}x+\ln\cos x+C$

9. $\frac{1}{2}x^2\operatorname{arctg}x-\frac{1}{2}x+\frac{1}{2}\operatorname{arctg}x+C$

10. $\frac{1}{3}x^3\ln x-\frac{1}{9}x^3+C$

11. $\frac{e^x}{x+1}+C$

12. $-\frac{1}{3}x^2\cos 3x+\frac{2}{9}x\sin 3x+\frac{2}{27}\cos 3x$

13. $-\cos x\ln\cos x+\cos x+C$

14. $\frac{1}{2}x(\sin\ln x-\cos\ln x)+C$

15. $\frac{1}{2}e^x(\cos x+\sin x)+C$