

Integreace metodou per partes

$$1) \int x \sin x \, dx = -x \cos x + \sin x + c$$

$$2) \int x^2 \ln x \, dx = \frac{x^3}{3} \left(\ln x - \frac{1}{3} \right) + c$$

$$3) \int x \cos 3x \, dx = \frac{1}{3} x \sin 3x + \frac{1}{9} \cos 3x + c$$

$$4) \int x^2 \sin 2x \, dx = -\frac{1}{4} (2x^2 - 1) \cos 2x + \frac{1}{2} x \sin 2x + c$$

$$5) \int \ln(x+3) \, dx = (x+3) \cdot \ln(x+3) - x + c$$

$$6) \int x^2 \arctg x \, dx = \frac{1}{3} x^3 \arctg x - \frac{1}{6} x^2 + \frac{1}{6} \ln(1+x^2) + c$$

$$7) \int \arctg \sqrt{x} \, dx = x \arctg \sqrt{x} - \sqrt{x} + \arctg \sqrt{x} + c$$

$$8) \int \frac{\ln^3 x}{x^2} \, dx = -\frac{1}{x} (\ln^3 x + 3 \ln^2 x + 6 \ln x + 6) + c$$

$$9) \int x \cdot \operatorname{tg}^2 x \, dx = x \operatorname{tg} x + \ln |\cos x| - \frac{x^2}{2} + c$$

$$10) \int (3x+2)e^x \, dx = e^x(3x-1) + c$$

$$11) \int x^2 e^{-x} \, dx = -x^2 e^{-x} - 2x e^{-x} - 2e^{-x} + c$$

$$12) \int (3x+1) \cos x \, dx = (3x+1) \sin x + 3 \cos x + c$$

$$13) \int 2x e^{3x} \, dx = \frac{2}{3} x e^{3x} - \frac{2}{9} e^{3x} + c$$

$$14) \int (x^2+2) \ln x \, dx = \frac{x^3+6x}{3} \ln x - \frac{1}{9} x^3 - 2x + c$$

$$15) \int \arctg \frac{x-1}{x+1} \, dx = x \arctg \frac{x-1}{x+1} - \frac{1}{2} \ln(x^2+1) + c$$

$$16) \int \arcsin x \, dx = x \arcsin x + \sqrt{1-x^2} + c$$

$$17) \int (x+1) \cdot \ln(x^2+2) \, dx = \frac{1}{2}(x^2+2x+2)\ln(x^2+2) - \frac{1}{2}(x^2+4x) + \frac{4}{\sqrt{2}} \operatorname{arctg} \frac{x}{\sqrt{2}} + c$$

$$18) \int (x^2-3x+2)e^x \, dx = e^x(x^2-5x+7) + c$$

$$19) \int \operatorname{arctg} \sqrt{2x-1} \, dx = x \operatorname{arctg} \sqrt{2x-1} - \frac{\sqrt{2x-1}}{2} + c$$

$$20) \int \frac{x}{\sin^2 x} \, dx = -x \cot x + \ln |\sin x| + c$$