

# HATÁROZATLAN INTEGRÁLÁS

Számítsd ki az alábbi határozatlan integrálokat!

$$1) \int \frac{3x^2}{\sqrt{1-2x^3}} dx =$$

$$2) \int \frac{e^{2x}}{3+2e^{2x}} dx =$$

$$3) \int \frac{1}{3x \cdot \ln^3 x} dx =$$

$$4) \int e^x \cdot \cos 2x dx =$$

$$5) \int (x^2+1) \cos 2x dx =$$

$$6) \int x^2 \cdot \operatorname{arctg} 2x dx =$$

$$7) \int \log_3(x^2+1) dx =$$

$$8) \int \frac{3x^2+1}{x^2-5x+6} dx =$$

$$9) \int \frac{4x+5}{3x^2+4} dx =$$

$$10) \int \frac{2x^5+3x^2+6}{2x^4+3x^2} dx =$$

MEGOLDÁSOK: 1)  $-\sqrt{1-2x^3} + C$

2)  $\frac{1}{4} \cdot \ln|3+2e^{2x}| + C$

3)  $-\frac{1}{6} \cdot \frac{1}{\ln^2 x} + C$

4)  $\frac{1}{5} e^x \cdot \cos 2x + \frac{2}{5} e^x \sin 2x + C$

5)  $\frac{1}{2} (x^2+1) \cdot \sin 2x + \frac{1}{2} x \cos 2x - \frac{1}{4} \sin 2x + C$

6)  $\frac{1}{3} \cdot x^3 \cdot \operatorname{arctg} 2x - \frac{1}{12} x^2 + \frac{1}{48} \cdot \ln|1+4x^2| + C$

7)  $x \cdot \log_3(x^2+1) - \frac{2}{\ln 3} \cdot x + \frac{2}{\ln 3} \cdot \operatorname{arctg} x + C$

8)  $3x - 13 \cdot \ln|x-2| + 28 \cdot \ln|x-3| + C$

9)  $\frac{2}{3} \cdot \ln|3x^2+4| + \frac{5}{2\sqrt{3}} \operatorname{arctg} \frac{\sqrt{3}}{2} x + C$

10)  $\frac{1}{2} x^2 - \frac{2}{x} - \frac{3}{4} \ln|2x^2+3| - \frac{1}{3} \cdot \frac{\sqrt{3}}{\sqrt{2}} \cdot \operatorname{arctg} \frac{\sqrt{2}}{\sqrt{3}} x + C$