Neurčitý integrál racionálnej funkcie

12. Vypočítajte neurčité integrály:

1. $\int \frac{6}{x+4}dx$
2. $\int \frac{3}{4x+8}dx$
3. $\int \frac{1}{x^2-1}dx$
4. $\int \frac{1}{49+x^2}dx$
5. $\int \frac{1}{8+2x^2}dx$
6. $\int \frac{7}{\sqrt{-x^2-4x+12}}dx$
7. $\int -\frac{1}{(x+3)^6}dx$
8. $\int \frac{2}{(x+1)(x+6)}dx$
9. $\int \frac{1}{x(x-1)(x+1)}dx$
10. $\int \frac{x^3-2x^2+x+2}{x^2+1}dx$
11. $\int \frac{2}{x^2+2x+3}dx$
12. $\int \frac{2x-3}{(x^2-3x+2)^2}dx$
13. $\int \frac{2x}{x^2+x+2}dx$
14. $\int \frac{1}{x^3-1}dx$
15. $\int \frac{4x^2-8x}{(x-1)^2(x^2+1)}dx$

12. Výsledky:

1. $6\ln|x+4|+c$ **2.** $\frac{3}{4}\ln|4x+8|+c$ **3.** $\frac{1}{2}(\ln|x-1|-\ln|x+1|)+c$ **4.** $\frac{1}{7}arctg\ \frac{x}{7}+c$ **5.** $\frac{1}{4}arctg\ \frac{x}{2}+c$ **6.** $7arcsin\frac{x+2}{4}+c$ **7.** $\frac{1}{5(x+3)^5}+c$ **8.** $\frac{2}{5}(\ln|x+1|-\ln|x+6|)+c$ **9.** $-\ln|x|+\frac{1}{2}\ln|x-1|+\frac{1}{2}\ln|x+1|+c$ **10.** $\frac{x^2}{2}-2x+4arctg\ x+c$ **11.** $\sqrt{2}arctg\frac{x+1}{\sqrt{2}}+c$ **12.** $-frac(x-1)^3 3+\frac{(x-2)^3}{3}+c$ **13.** $\ln\left|x^2+x+2\right|-\frac{7}{4}arctg\frac{2x+1}{\sqrt{7}}+c$ **14.** $\frac{1}{2}\ln\left|x^2+x+1\right|+\sqrt{3}arctg\frac{2x+1}{\sqrt{3}}+c$ **15.** $2\ln|x-1|+\frac{2}{x-1}-\ln(x^2+1)+4arctg\ x+c$