

Esercizi sugli integrali

Lista n.2 di giovedì 7 marzo 2002

Calcolare i seguenti integrali riconducibili alla forma $\int f(g(x))g'(x) dx$

$$\boxed{19} \int \frac{1 + \tan^2 x}{\sqrt{1 + \tan x}} dx$$

$$\boxed{20} \int \frac{2 \arcsin(2x)}{\sqrt{1 - 4x^2}} dx$$

$$\boxed{21} \int \frac{x}{\sqrt{1 - x^4}} dx$$

$$\boxed{22} \int e^{6x + e^{2x}} dx$$

$$\boxed{23} \int \frac{x^2}{1 + x^6} dx$$

$$\boxed{24} \int \frac{x e^{\arctan(x^2)}}{1 + x^4} dx$$

$$\boxed{25} \int \frac{\sin x}{\cos^2 x} dx$$

$$\boxed{26} \int \frac{2x + 3}{\sqrt{3x^2 + 9x + 5}} dx$$

$$\boxed{27} \int \tan^4 x + \tan^2 x dx$$

$$\boxed{28} \int \tan^3 x + \tan x dx$$

$$\boxed{29} \int \tan^7 x dx$$

$$\boxed{30} \int \tan^8 x dx$$

Calcolare i seguenti integrali con un'opportuna sostituzione

$$\boxed{31} \int \cos(\log x) dx$$

$$\boxed{32} \int e^{\sqrt[3]{x}} dx$$

$$\boxed{33} \int (e^x + 7)^8 e^x dx$$

$$\boxed{34} \int x \sqrt{x + 5} dx$$

$$\boxed{35} \int \cos \sqrt{2x + 1} dx$$

$$\boxed{36} \int \sin \sqrt[3]{x + 2} dx$$

$$\boxed{37} \int \sqrt{3 + \sqrt{4 + \sqrt{x + 1}}} dx$$

$$\boxed{38} \int \sqrt{\frac{1 + x}{1 - x}} dx$$

Calcolare i seguenti integrali della forma $\int \frac{1}{\sqrt{ax^2 + bx + c}} dx$

$$\boxed{39} \int \frac{1}{\sqrt{4 - x^2}} dx$$

$$\boxed{40} \int \frac{1}{\sqrt{x^2 + 9}} dx$$

$$\boxed{41} \int \frac{1}{\sqrt{x^2 - 16}} dx$$

$$\boxed{42} \int \frac{1}{\sqrt{x^2 + 2x + 2}} dx$$

$$\boxed{43} \int \frac{1}{\sqrt{-x^2 - 2x}} dx$$

$$\boxed{44} \int \frac{1}{\sqrt{x^2 + 4x + 8}} dx$$