練習問題で in.→ out.

積分大復習 part4［練習問題］

1min.

I 次の公式を証明せよ.

(1) $\cos\alpha\sin\beta=\frac{1}{2}\{\sin(\alpha+\beta)-\sin(\alpha-\beta)\}$

(2) $\sin\alpha\sin\beta=-\frac{1}{2}\{\cos(\alpha+\beta)-\cos(\alpha-\beta)\}$

2 次の不定積分を計算せよ.

(1) $\int \cos 4x\sin 2x\ dx$

(2) $\int \sin 8x\sin 3x\ dx$

(3) $\int \sin^2\frac{1}{2}x\,dx$

(4) $\int \sin 2x\cos 2x\,dx$

(5) $\int x\cos x^2\sin 2x^2\,dx$

(6) $\int \frac{1}{\cos^2 5x}dx$

(7) $\int \frac{x}{\sin^2 x^2}dx$

(8) $\int \tan x\,dx$

(9) $\int \tan^2 x\,dx$

(10) $\int \sin^2 2x\,dx$

(11) $\int \cos^3 x\ dx$

(12) $\int \sin^4 x\ dx$

(13) $\int \frac{1}{\cos 3x}\ dx$