

تمارين (9)

1- احسب التكاملات الآتية:

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|---|---|
| (1) $\int \tan 3x dx$ | (2) $\int \sec^2(5x + 2) dx$ |
| (3) $\int \tan^2 x \sec^2 x dx$ | (4) $\int \tan^5 x \sec^4 x dx$ |
| (5) $\int \tan^3 4x \sec^4 x dx$ | (6) $\int \tan^5 x \sec x dx$ |
| (7) $\int \sec^2 x \tan^3 x dx$ | (8) $\int \tan^2 \frac{x}{2} \sec^3 \frac{x}{2} dx$ |
| (9) $\int \tan 2x \sec^3 2x dx$ | (10) $\int \tan x \sec^5 x dx$ |
| (11) $\int \sec^6(\pi x) dx$ | (12) $\int x \tan^2 x^2 \sec^2 x^2 dx$ |
| (13) $\int \sin x \cos ax dx, a \neq 0$ | (14) $\int \sin^2(2x) \cos^3(2x) dx$ |
| (15) $\int \sin x \cos 2x dx$ | (16) $\int \sin(2x) \cos(4x) dx$ |

2- أوجد قانوناً اختزالياً للتكاملات الآتية :

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|---|-------------------------------------|
| (1) $\int x^n \sin ax dx, a \neq 0$ | (2) $\int x^n \cos ax dx, a \neq 0$ |
| (3) $\int e^{ax} (\sin x)^n dx, a \neq 0$ | (4) $\int (\arccos x)^n dx$ |

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