

أحسب التكاملات التالية :

$$J_1 = \int_0^{\frac{\pi}{2}} \cos x \cdot \sin x \, dx \quad , \quad J_2 = \int_0^{\frac{\pi}{2}} \sin \left(2x - \frac{\pi}{4} \right) dx$$
$$J_3 = \int_{-\frac{\pi}{3}}^{\pi} \cos \left(3x - \frac{\pi}{2} \right) dx \quad , \quad J_4 = \int_0^{\frac{\pi}{4}} \sin x \cos^3 x \, dx$$
$$J_5 = \int_0^{\frac{\pi}{4}} (\tan^3 x + \tan x) \, dx \quad , \quad J_6 = \int_{\frac{\pi}{6}}^{\frac{\pi}{3}} \tan x \, dx$$
$$J_7 = \int_0^{\frac{\pi}{3}} \tan^2 x \, dx \quad , \quad J_8 = \int_{\frac{\pi}{6}}^{\frac{\pi}{3}} \frac{1 + \tan^2 x}{\tan x} \, dx$$

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