$$\int \cos(x)\cos(2\,x)\sin(4\,x)\,\mathrm{d}x$$

$$= \int 1/2\,\cos(x)\left(\sin(6\,x)+\sin(2\,x)\right)\,\mathrm{d}x \text{ (viết lại, } \cos(x)\cos(2\,x)\sin(4\,x) = 1/2\,\mathrm{co}$$

$$= \int 1/2\,\cos(x)\sin(6\,x)+1/2\,\cos(x)\sin(2\,x)\,\mathrm{d}x \text{ (viết lại, } 1/2\,\cos(x)\left(\sin(6\,x)+\mathrm{si}\right.$$

$$= \int 1/2\,\cos(x)\sin(6\,x)\,\mathrm{d}x + \int 1/2\,\cos(x)\sin(2\,x)\,\mathrm{d}x \text{ (công thức tổng)}$$

$$= 1/2\int \cos(x)\sin(6\,x)\,\mathrm{d}x + \int 1/2\,\cos(x)\sin(2\,x)\,\mathrm{d}x \text{ (nhân hằng số)}$$

$$= 1/2\int 1/2\,\sin(7\,x)+1/2\,\sin(5\,x)\,\mathrm{d}x + \int 1/2\,\cos(x)\sin(2\,x)\,\mathrm{d}x \text{ (viết lại, } \cos(x)$$

$$= 1/2\int 1/2\,\sin(7\,x)\,\mathrm{d}x + 1/2\int 1/2\,\sin(5\,x)\,\mathrm{d}x + \int 1/2\,\cos(x)\sin(2\,x)\,\mathrm{d}x \text{ (công}$$

$$= 1/4\int \sin(7\,x)\,\mathrm{d}x + 1/2\int 1/2\,\sin(5\,x)\,\mathrm{d}x + \int 1/2\,\cos(x)\sin(2\,x)\,\mathrm{d}x \text{ (nhân hằn}$$

$$= 1/4\int 1/7\,\sin(u)\,\mathrm{d}u + 1/2\int 1/2\,\sin(5\,x)\,\mathrm{d}x + \int 1/2\,\cos(x)\sin(2\,x)\,\mathrm{d}x \text{ (đặt bi}$$

$$= 1/28 \int \sin(u)\ \mathrm{d}u + 1/2 \int 1/2\ \sin(5\,x)\ \mathrm{d}x + \int 1/2\ \cos(x) \sin(2\,x)\ \mathrm{d}x \text{ (nhân hằng}$$

$$= -1/28\ \cos(u) + 1/2 \int 1/2\ \sin(5\,x)\ \mathrm{d}x + \int 1/2\ \cos(x) \sin(2\,x)\ \mathrm{d}x \text{ (công thức sin}$$

$$= -1/28\ \cos(7\,x) + 1/2 \int 1/2\ \sin(5\,x)\ \mathrm{d}x + \int 1/2\ \cos(x) \sin(2\,x)\ \mathrm{d}x \text{ (trả lại)}$$

$$= -1/28\ \cos(7\,x) + 1/4 \int \sin(5\,x)\ \mathrm{d}x + \int 1/2\ \cos(x) \sin(2\,x)\ \mathrm{d}x \text{ (nhân hằng số)}$$

$$= -1/28\ \cos(7\,x) + 1/4 \int 1/5\ \sin(u)\ \mathrm{d}u + \int 1/2\ \cos(x) \sin(2\,x)\ \mathrm{d}x \text{ (đặt biến, } u =$$

$$= -1/28\ \cos(7\,x) + 1/20 \int \sin(u)\ \mathrm{d}u + \int 1/2\ \cos(x) \sin(2\,x)\ \mathrm{d}x \text{ (nhân hằng số)}$$

$$= -1/28\ \cos(7\,x) - 1/20\ \cos(u) + \int 1/2\ \cos(x) \sin(2\,x)\ \mathrm{d}x \text{ (công thức sin)}$$

$$= -1/28\ \cos(7\,x) - 1/20\ \cos(5\,x) + \int 1/2\ \cos(x) \sin(2\,x)\ \mathrm{d}x \text{ (trả lại)}$$

$$= -1/28\ \cos(7\,x) - 1/20\ \cos(5\,x) + 1/2 \int \cos(x) \sin(2\,x)\ \mathrm{d}x \text{ (nhân hằng số)}$$

$$= -1/28\,\cos(7\,x) - 1/20\,\cos(5\,x) + 1/2\int 1/2\,\sin(3\,x) + 1/2\,\sin(x)\,\mathrm{d}x \text{ (viết lại, cos}$$

$$= -1/28\,\cos(7\,x) - 1/20\,\cos(5\,x) + 1/2\int 1/2\,\sin(3\,x)\,\mathrm{d}x + 1/2\int 1/2\,\sin(x)\,\mathrm{d}x \text{ (c}$$

$$= -1/28\,\cos(7\,x) - 1/20\,\cos(5\,x) + 1/4\int \sin(3\,x)\,\mathrm{d}x + 1/2\int 1/2\,\sin(x)\,\mathrm{d}x \text{ (nhân}$$

$$= -1/28\,\cos(7\,x) - 1/20\,\cos(5\,x) + 1/4\int 1/3\,\sin(u)\,\mathrm{d}u + 1/2\int 1/2\,\sin(x)\,\mathrm{d}x \text{ (đặ}$$

$$= -1/28\,\cos(7\,x) - 1/20\,\cos(5\,x) + 1/12\int \sin(u)\,\mathrm{d}u + 1/2\int 1/2\,\sin(x)\,\mathrm{d}x \text{ (nhân}$$

$$= -1/28\,\cos(7\,x) - 1/20\,\cos(5\,x) - 1/12\,\cos(u) + 1/2\int 1/2\,\sin(x)\,\mathrm{d}x \text{ (công thức s}$$

$$= -1/28\,\cos(7\,x) - 1/20\,\cos(5\,x) - 1/12\,\cos(3\,x) + 1/2\int 1/2\,\sin(x)\,\mathrm{d}x \text{ (trả lại)}$$

$$= -1/28\,\cos(7\,x) - 1/20\,\cos(5\,x) - 1/12\,\cos(3\,x) + 1/4\int \sin(x)\,\mathrm{d}x \text{ (nhân hằng số)}$$

$$= -1/28\,\cos(7\,x) - 1/20\,\cos(5\,x) - 1/12\,\cos(3\,x) - 1/4\,\cos(x) \text{ (công thức sin)}$$