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$$\int \cos 5x \cos 3x dx = \int \frac{1}{2}(\cos 2x + \cos 8x) dx = \frac{1}{2}\int \cos 2x + cox\ 8x dx =$$

$$\frac{1}{2}\left(\int \cos 2x dx + \int \cos 8x dx\right) = \frac{1}{2}\left(\frac{\sin 2x}{2} + \frac{sint\ 8x}{8}\right) =$$

$$\frac{\sin 2x}{4} + \frac{\sin 8x}{16} + C$$

$$\int tg^5 x dx = \frac{1}{4} tg\ x^4 - \int tg\ x^3 dx = \frac{1}{4} tg\ x^4 - \left(\frac{1}{2} tg\ x^2 - \int tg\ dx\right) =$$

$$\frac{1}{4} tg\ x^4 - \left(\frac{1}{2} tg\ x^2 - \int \frac{\sin x}{\cos x} dx\right)$$

$$t = \cos x$$

$$\frac{1}{4} tg\ x^4 - \left(\frac{1}{2} tg\ x^2 - \int -\frac{1}{t} x dt\right) = \frac{1}{4} tg\ x^4 - \left(\frac{1}{2} tg\ x^2 + \int \frac{1}{t} x dt\right) =$$

$$\frac{1}{4} tg\ x^4 - \left(\frac{1}{2} tg\ x^2 + \ln|t|\right) = \frac{1}{4} tg\ x^4 - \left(\frac{1}{2} tg\ x^2 + \ln|\cos x|\right) = \frac{g\ x^4}{4} - \left(\frac{tg\ x^2}{2} + \ln|\cos x|\right) + C$$

100% Lang: None, Words: 0, Math: 2 More