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$$\int_0^{\pi/6} (2\sin x + 5)\cos x\,dx = \int_0^{\pi/6} (2\sin x\cos x + 5\cos x)\,dx = \left\{ \sin 2x = 2\sin x\cos x \right\}$$

Dubbla vinkeln här surrus!

$$= \int_0^{\pi/6} (\sin 2x + 5\cos x)\,dx = \left[-\frac{\cos 2x}{2} + 5\sin x \right]_0^{\pi/6}$$

$$= \left(-\frac{\cos 2\frac{\pi}{6}}{2} + 5\sin\frac{\pi}{6} \right) - \left(-\frac{\cos 0}{2} + 5\sin 0 \right)$$

$$= -\frac{\frac{1}{2}}{2} + 5\cdot\frac{1}{2} - \left(-\frac{1}{2} + 0 \right) = -\frac{1}{4} + \frac{5}{2} + \frac{1}{2} = \frac{6}{2} - \frac{1}{4}$$

$$= \frac{12}{4} - \frac{1}{4} = \frac{11}{4}$$

Svar: $\frac{11}{4}$