From the integral table or integration by parts:

$$\int \sin^n x\, dx = -\frac{\sin^{n-1} \cos x}{n} + \frac{n-1}{n} \int \sin^{n-2} x\, dx \tag{1}$$

In our case the first term vanishes when we substitute in the limits. For us n is odd $(2l+1)$, so at the end only one term will survive. For example do this for $2l+1=7$ and see what you get.