Honors problem 1

due Feb. 8

(to be handed in before the first midterm)

For $m, n \geq 0$, we know how to compute

$$\int \cos^m(x) \sin^n(x) dx$$

using the techniques of Section 6.2.

Explain how to compute this integral for any integers m and n.

Hint. You may have to deal with various cases in different ways depending on the sign and parity (even-ness or odd-ness) of m and n. For example, you might say "When m is positive and odd and n is anything, we can apply —— to turn the integral into the form ——, which we can solve using the technique ——".