

Homework 3 - Math 142, Frank Thorne (thornef@mailbox.sc.edu)

Due Friday, September 14

As always, please show your work and explain yourself clearly.

Required problems:

(a) Evaluate

$$\int \sin^2(x) dx.$$

(b) Evaluate

$$\int \cos^2(x) dx.$$

(c) Stewart, Ch. 7.3, 1-14. **For each problem, draw the relevant triangle.**

(d) Stewart, Ch. 7.4, 1-2 (previously 1-3). (**Do** determine the numerical values of the coefficients.)

(e) Stewart, Ch. 7.4, 7-16, 39-42, 44 (previously also 43), 51, 62.

Additional problems:

(a) Stewart, Ch. 7.3, 15-20.

(b) Stewart, Ch. 7.4, 4a, 5a (previously 4-6), 17-22.

Bonus (2 points): Give at least two different integrals which the techniques you have learned *don't* allow you to evaluate. Explain why not.