

## HOMWORK 1

- (1) Install DETools from the textbook CDROM on your computer.
- (2) Read Section 1.1 of the textbook and do problems 4, 6, 10, and 11 on pp. 14-17. (In the problem 6(b) the last two years in the table to determine  $k$ ).
- (3) Compute the following integrals. Do not use calculator. Show all your work.

(a)

$$\int (x + 1)^3 dx;$$

(b)

$$\int \left( \frac{3}{x} + \sqrt{x} - \frac{1}{\sqrt{x}} \right) dx;$$

(c)

$$\int \left( \frac{1}{1+t^2} + \frac{1}{\sqrt{1-t^2}} + \cos(2t) \right) dt;$$

(d)

$$\int_0^1 e^{-3t} dt;$$

(e)

$$\int_0^2 \frac{dt}{2t+5};$$

(f) (use integration by parts)

$$\int ye^{-2y} dy;$$

(g) (use partial fractions)

$$\int \frac{5}{(t+2)(t-3)} dt.$$