

7.4.54.

$$f \ g(t) = \int_0^t f(\tau)g(t - \tau)d\tau = \int_0^t f(t - u)g(u)du = \int_t^0 f(t - u)g(u)(-du) = \int_0^t f(t - u)g(u)du = g \ f(t)$$

$$= \int_t^0 f(t - u)g(u)(-du) = \int_0^t f(t - u)g(u)du = g \ f(t)$$