Chapter 7, Solution 32.

(a) $\int_1^t u(\lambda)d\lambda = \int_1^t 1 d\lambda = \lambda \Big|_1^t = \underline{t-1}$

(b) $\int_0^4 r(t-1)dt = \int_0^1 0dt + \int_1^4 (t-1)dt = \frac{t^2}{2} - t\Big|_1^4 = \underline{4.5}$

(c) $\int_1^5 (t-6)^2 \delta(t-2)dt = (t-6)^2\Big|_{t=2} = \underline{16}$