

**PROOF OF FORMULA 4.236.2**

$$\int_0^1 \left[ \frac{1}{1-x} + \frac{x \ln x}{(1-x)^2} \right] dx = \frac{\pi^2}{6} - 1$$

This is the special case  $p = 1$  of entry 4.236.1 using the value  $\psi'(1) = \frac{\pi^2}{6}$ .