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Mostra che

$$\int_0^{\infty} dx \frac{1}{x^{\alpha}(1+x)^n} = \frac{\Gamma(1-\alpha)\Gamma(\alpha+n-1)}{(n-1)!},$$

dove $n \in \mathbb{N}$ e $\alpha \in \mathbb{C}$ con $1-n < \operatorname{Re}(\alpha) < 1$.