

I - 1^o. $F'(x) = H'(x)$

2^o. $F(x) = 1 + (x) \Rightarrow B(p, q) = B(q, p)$

3^o. $B(0, n) = \frac{1}{n+1} \Rightarrow$ par récurrence $B(p, q) = \frac{p! q!}{(p+q+1)!}$

II.

$$69. \int_a^b r e^{\lambda r} \cos(\mu r) dr = \left[\frac{e^{\lambda r}}{\lambda^2 + \mu^2} \left[\left(\lambda r - \frac{\lambda^2 - \mu^2}{\lambda^2 + \mu^2} \right) \cos \mu r + \left(\mu r - \frac{2\lambda\mu}{\lambda^2 + \mu^2} \right) \sin(\mu r) \right] \right]_a^b$$

$$\int_a^b r e^{\lambda r} \sin(\mu r) dr = \left[\frac{e^{\lambda r}}{\lambda^2 + \mu^2} \left[\left(\lambda r - \frac{\lambda^2 - \mu^2}{\lambda^2 + \mu^2} \right) \sin \mu r - \left(\mu r - \frac{2\lambda\mu}{\lambda^2 + \mu^2} \right) \cos \mu r \right] \right]_a^b$$

III. 987.1597